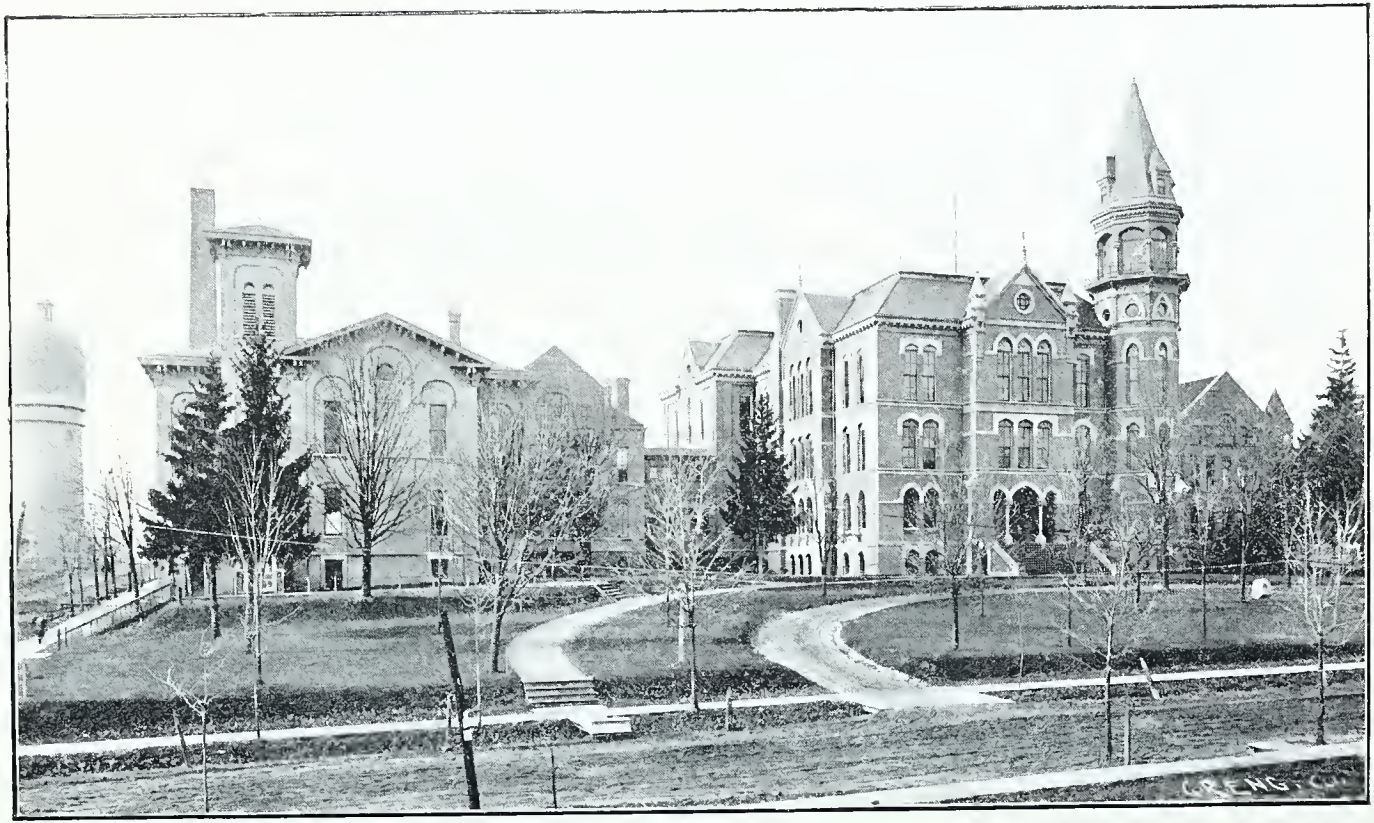
The State Normal School Michigan

Its Plan and Purpose

An Outline of Its Work



THE STATE

NORMAL SCHOOL

OF

MICHIGAN

ITS PLAN AND PURPOSE

AND AN

OUTLINE OF ITS WORK.

DEAN PRINTING AND PUBLISHING CO.,

GRAND RAPIDS, MICH.

It is the purpose of this pamphlet to set forth, briefly, the work and the scope of THE MICHIGAN STATE NORMAL SCHOOL, in order that friends of education in America may be informed concerning what Michigan is doing in the professional training of her teachers. It is also designed to aid educators from other countries in gaining an acquaintance with the present condition of progress in American Normal schools.

The Michigan State Normal School.

LOCATION.

The Michigan State Normal School, the only public institution of its kind in the State, occupies a fine and commanding elevation of ground in the western part of the city of Ypsilanti, in Washtenaw county. The site contains about six acres of land, sloping gently to the east. Ypsilanti is a beautiful and healthful city situated on both banks of the Huron river, and on the Michigan Central R. R., thirty miles west of Detroit, the metropolis of the State. A branch of the Lake Shore & Michigan Southern R. R. has its terminus here, and a tramway gives hourly connection with the Toledo, Ann Arbor & Northern Michigan R. R. Thus the school is easily accessible from any part of the State. The city has a population of nearly 8,000. It is lighted by electricity, has a good and effective sewer system and is supplied with an abundance of pure water.

BUILDINGS.

The buildings are three in number: The main building, the Conservatory of Music, and a boiler house, which supplies steam for heating the other two buildings. The central part of the main building and its front are three stories in height above the basement, and the remainder of the structure, two stories. It is in the form of a rectangular cross, extending 304 feet north and south, and 300 feet east and west. The main front faces the east. On the first and second floors are central corridors conforming to the cruciform plan of the building and extending throughout the structure. The space on both sides of the corridors is divided into lecture and recitation rooms, library, offices, laboratories, society rooms, attendance halls, etc. Two large rooms in the well-lighted front basement are occupied as a physical laboratory and one as a workshop in connection with the laboratory. Another room in the basement of the south wing is used as a room for recreation and physical exercise. The remainder is used for storage only. The third floor affords rooms for the laboratory and lecture rooms of the department of Natural Sciences, and for a fine and ample hall capable of seating 1,000 persons. In this the school assembles daily for announcements and for chapel exer-

cises. It contains a powerful organ and is much used as a lecture and concert room, and for the public exercises of the school and of the literary societies.

The Conservatory of Music building is two stories in height. It covers an area of 54 by 72 feet and contains two large and four smaller rooms. The department of Music has exclusive use of the rooms, except that its main hall is occupied by the Students' Christian Association for its weekly meetings. Several of the regular courses of study require Vocal Music, and one of these, the Music Course, includes studies in this branch and also in Voice Culture, Harmony, Counterpoint, Literature of Music, etc. All classes in these subjects, whether pursuing regular Normal courses or special Conservatory courses, are instructed in this building.

There are in both buildings mentioned above, fifty-nine rooms used for school purposes. Of these, thirty-seven are constantly occupied exclusively for purposes of instruction: three as offices for the Principal, the Preceptress and the Principal of the Training School: one as a library: two as study and assembly rooms for the young men and young women respectively: one as a workshop: one as an observatory: one as a chapel

and audience room; four as society rooms; and nine as lavatories, cloak-rooms and store and apparatus rooms.

The original building, three stories in height, covering an area of 55 by 102 feet, now stands in the center of the structure, which constitutes the main building. It was erected in 1851-52, and dedicated to its use, with appropriate ceremonies, in October, 1852. Seven years later, except its wall, it was destroyed by fire, but was speedily put into condition for use with money realized from insurance.

The present front, three stories in height and 88 by 93 feet on the ground, was built in 1878 at a cost of $43,301. The rear part, two stories in height, 112 feet long by 53 feet in width, was added in 1881-82. The cost was about $25,000. The north and south wings, each two stories in height and about 100 feet in length by an average of 50 feet in width, were built in 1887-88. These with the boiler house equipped with boilers cost $60,000. During the year 1892, two annexes, each two stories in height and about 24 by 30 feet in dimensions, to be used as lavatories and water closets, have been completed at a cost of $8,000. The Conservatory of Music was finished and first occupied in 1869. The cost was $10,750. Until

1882 it was occupied by the Training School. The present value of all the buildings is $163,000, the value of the grounds, $7,500, and of the whole plant, including furniture, apparatus, organ and other musical instruments and a library of 13,000 volumes, $234,479.

POINTS OF INTEREST IN HISTORY, GROWTH, ETC.

Dating from March, 1853, at which time the school was first opened for the admission of regular classes, its history covers a period of forty years. It has been under the executive charge of Principals as follows:

1853–1865,	Adonijah S. Welsh	12 years
1865–1870,	David P. Mayhew	5 years
1870–1871,	C. Fitz Roy Bellows (acting principal)	1 year
1871–1880,	Joseph Estabrook	9 years
1880–1881,	Malcolm McVicar	1 year
1881–1883,	Daniel Putnam (acting principal)	2 years
1883–1885,	Edwin Willetts	2 years
1885–1886,	Daniel Putnam (acting principal)	1 year
1886–	J. M. B. Sill	7 years

The following statement exhibits the growth of the school in numbers enrolled and numbers graduated during each ten years of its existence to June 30, 1892. This date marks the end of the last fully completed year. Pupils in the Training School are not included in this exhibit:

Average annual enrollment for the first decade, 1854-63, 355
Average annual enrollment for the second decade, 1864-73, 342

Average annual enrollment for the third decade, 1874-83, 361
Average annual enrollment for the fourth period, 1884-92, 726

The number enrolled in the year ending June, 1892, exclusive of pupils in the Training School, was 1,002. Of the students so enrolled, 66 per cent. were young women. This is a close approximation to the usual proportion of the sexes in the membership of the school.

Average annual number of graduates for first decade, 1854-63..... 13
Average annual number of graduates for second decade, 1864-73..... 23
Average annual number of graduates for third decade, 1874-83..... 77
Average annual number of graduates for fourth period, 1884-92..... 118

The present Faculty of the school includes the Principal, twelve heads of departments, and twenty-four assistants: of these assistants, nine are model and critic teachers in the Training School and Kindergarten. The following list names the executive officers of the Faculty and the heads of the departments in the order of their appointment, and shows what department is under the immediate charge of each:

JOHN M. B. SILL, M. A., M. Pd.,
Principal.

DANIEL PUTNAM, M. A., Vice-Principal,
Mental and Moral Science, and Theory and Art of Teaching.

JULIA ANNE KING, M. A., M. Pd., Preceptress,
History and Civics.

FREDERIC H. PEASE,
Music and Director of Conservatory.

AUGUST LODEMAN, M. A.,
German and French Languages.

AUSTIN GEORGE, M. A.,
Principal of Training School, and Assistant in Theory and Art of Teaching.

LUCY A. OSBAND, M. A.,
Natural Sciences (Systematic Botany and Physiology).

EDWIN A. STRONG, M. A.,
Physical Sciences.

FLORUS A. BARBOUR, B. A.,
English Language and Literature.

*..... .....
Geography and Drawing.

BENJAMIN L. D'OOGE, M. A.,
Latin and Greek Languages.

P. R. CLEARY,
Penmanship.

DAVID E. SMITH, Ph. M., Ph. D.,
Mathematics.

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*JOHN GOODISON, M. Pd., for many years Professor of Drawing and Geography, died in November, 1892. His successor is not yet appointed.

WILLIAM H. SHERZER, M. A.,
Natural Sciences (Zoology, Structural Botany, Geology).

ORGANIZATION AND GOVERNMENT.

The State Normal School is under the full charge and direction of the State Board of Education. This Board consists of four members, three of whom are elected as such by the people of the State: the fourth is the Superintendent of Public Instruction, who is *ex officio* a member and the Secretary. His term of office is two years. The term of the members, directly elected, is six years, one being chosen each even numbered year. The Board elects its own president and treasurer. The members receive no salary, but are allowed a per diem of three dollars and actual expenses, when they are engaged in the duties prescribed for them by law. This Board has several minor functions, but its chief duty is to take care of the interests of the Normal School. It is a body corporate and all Normal School property stands in its name. Its authority in all matters pertaining to the school is absolute.

The law requires it to provide all necessary courses of study, to maintain a fully equipped Training School, to make all regulations for the admission of pupils, and to grant all certificates,

diplomas and degrees upon recommendation of the Faculty. It appoints all teachers and fixes their salaries, and makes all general regulations for the government and administration of the School. The Constitution of 1850 gives the general supervision of the School to this Board, and the Statutes prescribe all necessary details for the administration of its affairs.

At present the Board is constituted as follows:
Hon. Perry F. Powers, President, Cadillac, Mich.
Hon. Henry R. Pattengill, Secretary, Lansing, Mich.
Hon. David A. Hammond, Treasurer, Charlotte, Mich.
Hon. Eugene A. Wilson, Paw Paw, Mich.

MEANS OF SUPPORT.

The permanent fund for the support of the School is a slender one. It comes from the sale of public lands, which were originally granted by the State, for the erection of buildings and for maintenance. The proceeds from these lands, less the amount used in the erection of the original building, are in the hands of the State and amount to a little more than $71,000. The interest at six per cent., paid annually by the State, amounts to about $4,300. To this source of income may be added an entrance fee of ten dollars per year

from each pupil not a holder of an appointment by a member of the Legislature, each of whom may appoint two pupils annually and for a term of one year. For the rest, the current expenses of the institution and the cost of additions to the original building are met by biennial legislative appropriations.

The current expenses of the School for the school-years 1891-2 and 1892-3, amounted to $109.781.14.

The Legislature has, from the first, been kindly disposed to the School. An element in this good will lies the fact that the State Board of Education, elected directly by the people and giving faithful and intelligent service without salary, has in a high degree enjoyed the confidence of the Legislature. The School is also a school for all the people who desire to equip themselves with the knowledge and training essential to success and usefulness in instructing the children of the State. The brief and sharp reviews in the common branches, which are always upon the schedule of exercises, happily meet the needs of those whose limited means allow them to attend only at intervals and for comparatively short periods. It has always been the policy of the Board and of the Faculty to be attentive to the needs of an intend-

ing teacher and to meet the demands of public schools, of all grades, for trained teachers.

CONDITIONS OF ADMISSION OF STUDENTS.

Graduates of High Schools, approved by the Board of Education upon recommendation of the Faculty, are admitted without entry examination and are credited with advanced work already done. Students are at present received from 103 schools so approved. All the regular courses, however, contain crucial reviews of elementary branches, which all pupils must pass, either by work in class or by special examination. These reviews are known as Teachers' Reviews and cover ten weeks each of daily recitations. It is the policy of the School to know, either by class work or by examination, that all graduates of the Normal School are thoroughly proficient in the academic as well as the professional phases of these studies: therefore, standings in them from other schools are not accepted, this rule being applied even to college graduates.

All applicants for admission, not graduates of approved High Schools, must sustain satisfactory examination in Arithmetic, Grammar, Geography and the elements of Algebra, and must show by such examination that they are well prepared to

enter upon the brief final reviews described above and contained in the regular courses. Students conditioned in these subjects, may pursue study in the ninth grade preparatory to entry into the regular courses of the Normal School.

STATUS IN GRADE OF INSTRUCTION.

Normal Schools, being essentially professional in character, cannot justly be compared with schools strictly literary and scientific in their aims. They belong with schools of law and medicine rather than with academies and colleges. Therefore, the words primary, secondary and higher are not altogether suitable to indicate the grade of education offered by them. But these words may properly be used to indicate the degree of advancement in academic study, which they either offer or require as the basis of the professional training, which it is their especial function to give. Under this view, it may be said that the field occupied by this School is largely within the limits of secondary education. The separating lines between primary and secondary, and between secondary and higher education, are not as yet accurately and absolutely defined. In this paper, the lines established by the University of Michigan in the requirements, which it makes upon the best High

Schools, as preparation for entry to its regular courses, are taken as marking the upper or higher limit of secondary instruction. That is to say, the point at which the recognized preparatory High Schools, whose graduates are admitted upon diploma, are allowed to end the work of education and at which the University begins its courses along the several lines of study, is taken as the point of division between secondary and higher education. Judged by this criterion, this Normal School occupies the field of higher education by the offer and requirement in its courses of the following studies in the several departments, as indicated below:

Mathematics: Trigonometry, Surveying, Higher Algebra, Calculus and General Geometry.

History: English Constitutional, United States Constitutional, Institutes of General History.

English: American Literature, Old and Middle English, Critical Study of Masterpieces, Advanced Rhetoric.

Physical Science: Advanced Physics, Advanced Chemistry, Astronomy, Instrumental Astronomy, Sanitary Science, Meteorology.

Natural Science: Comparative Zoology, Entomology, Geology.

Latin and Greek: Two years of advanced work in each.

French and German: One-half year in French and three half-years in German of advanced work; also a course in French and German Literature.

Psychology and Pedagogics: Applied Psychology. Advanced Psychology. Discussions and Comparisons of Educational Systems and Theories.

Of the foregoing courses in higher instruction, Trigonometry, Surveying, Advanced English Literature, Instrumental Astronomy, Sanitary Science, Meteorology, Comparative Zoology, Advanced Psychology, and Discussions of Educational Systems and Theories, each cover one-half semester: the others are half-year courses.

To the extent thus indicated, this School occupies the ground of higher education. Its advance into this field has been gradual, and it has been moved thereto by the steadily increasing demands of the Public Schools, which it is its acknowledged duty to supply with teachers abundantly equipped for all their grades. The Supreme Court of Michigan long ago decided that Public Common School Instruction extends far beyond mere primary or elementary tuition: that it rightfully covers the ground occupied by our best High Schools, and, therefore, that its upper limits extend at least to the generally accepted point of division between secondary and higher education.

The function of the Michigan Normal School is to prepare teachers, both academically and professionally, in the most thorough manner possible for duty in any place in the public schools to which they may be called, whether to superintend systems or to instruct classes, and whether such schools may be primary or secondary in the character of the instruction offered by them. And no teacher is so equipped unless his own culture and training have been carried considerably beyond the limit to which he may be called upon to conduct the pupils under his general supervision or his immediate instruction. In other words, he ought to pursue his own course of instruction considerably beyond the limit of the best High School courses of study. To this end this Normal School offers courses whose satisfactory completion fairly earns the honors that are usually awarded to those who finish a collegiate course.

COURSES OF STUDY.

The School offers three classes of courses: First: Courses covering three years of instruction, leading to a certificate, which is a license to teach in the schools of Michigan for a period of five years. Second: Courses covering four years of instruction, leading to a diploma and a life certifi-

cate. Third: Advanced courses, leading to the degree Bachelor of Pedagogics and a life certificate.

An appendix to this volume exhibits these courses in some detail, and shows certain shorter courses prescribed for graduates of approved High Schools. It also sets forth the conditions upon which the degrees of Bachelor and Master of Pedagogics may be earned.

The Department of the Theory and Art of Teaching.

Embracing Psychology, Psychology Applied in a General Way, and the History of Education.

The matter and methods of instruction in this department are determined mainly by the assumption that the education of a child is the result of the reciprocal action and influence of the mind and its environment. This environment consists of all material things and the forces which are associated with them; of all the products of human activity embodied in institutions, in history, in literature, in science, in art and in human life in its diverse and changing forms.

The soul is endowed with susceptibilities through which it is impressed, excited, or in some way affected by the objects and forces surrounding it. It has also the germs of positive powers, or capabilities of action, by which it lays hold upon the objects which have impressed and excited it.

The soul and its environment thus come into contact, and act and react upon each other. If the activity of the soul is vigorous enough and is rightly and wisely directed, it masters, transforms, and appropriates to its own use and service what it receives from the outer world. At the same time, it is itself changed by the efforts which it puts forth and by that which it appropriates and absorbs. As a final results of this action and reaction, the germs of power in the soul are unfolded and matured. Development takes place, training is secured, and knowledge is acquired. In the end the man becomes adapted to his surroundings and fitted for the services and duties which these impose upon him.

Much of this reciprocal action between the soul and its environment, which constitutes the process of education, takes place with little conscious purpose or effort on the part of the individual, and without direct and purposed intervention on the part of others: education goes on unconsciously, and undirected, and often with much waste of material and loss of power. This enables us to discover the true province and work of the school and the teacher. The School, by its arrangements and appliances, by its courses of studies and instruction, makes it possible to select

and present to the mind of the child such material as is best adapted to excite and occupy with profit his activities at successive periods of development. The real work of the teacher is to make the proper selection and presentation, to bring the soul and some appropriate part of its environment into friendly contact and into a state of vigorous action and reaction under conditions most favorable to the learner.

Supposing these preliminary statements to be accepted, it is easy to perceive the starting point from which the teacher's preparation must set out and the line along which it must proceed. He must, first of all, learn to know the child, its body, its soul, and, as far as possible, the relations between these.

The work of this department presupposes an elementary knowledge of Physiology, and consequently concerns itself with a brief review, only, of the nervous system to prepare the way for a clear understanding of the physical mechanism of sensation and perception and of the relations which the one bears to the other. It is possible that the new Psychology is inclined to ally itself too closely with Physiology and to undervalue the testimony of consciousness, but, nevertheless, some of the activities and states of the soul can be

comprehended and interpreted only by reference to the condition and action of the bodily organism.

It is freely admitted that the final appeal in matters relating to psychical states and activities must be to the individual consciousness.

Our study of Psychology, consequently, begins with the study of self by the process of introspection. The difficulties and imperfections of this method are obvious.

It must, therefore, be supplemented by the method of observation, personal observation as far and as fully as possible, both of young children and of young people of school age. Both these methods are supplemented by the use of text-books and books of reference. Independent thinking and investigation are encouraged, but students are advised to exercise great caution in the matter of drawing conclusions of a general character from limited data. The course of instruction aims at making pupils acquainted with the various psychical states and activities and of the relations of these to each other. It is found convenient in study and a help in retention to group these states and activities into a few classes; although the fact is recognized that in the mind itself these activities are usually inextricably intermingled. The feelings, as the motive powers of the soul, receive

considerable attention, while the will and the moral powers are pretty fully discussed. The demand for moral instruction and training in the public schools is recognized, and an effort is made to indicate some of the means and methods by which this demand may be properly satisfied.

For anything like a tolerably complete acquaintance with the powers and activities of the soul, one has need to study Logic to learn the laws of thinking, to study Ethics as the science of duty and of right conduct, and Esthetics to discover how the soul and the beautiful affect each other. The limited time allotted to the course permits only brief reference to these subjects.

In teaching Psychology in a Normal School, or in any institution of like grade, one is required to keep constantly in mind the wide differences between the scientific study of Psychology and the elementary study of Psychology. Much of the so-called study and instruction in Psychology is of very little, if any, practical value to one preparing to teach. As Compayre has so well said, "Psychology, properly so-called, Psychology considered as a science, the object of profound philosophic research, is one thing; while Psychology for school use is quite another. The teacher of Psychology will then recollect, at the very start, that in the

science which he teaches, there is a choice to be made between discussions that are merely scholarly or knotty, useless facts, trifling details, and really useful questions, which are of practical interest and which at the same time, by their simplicity and clearness, are within easy comprehension of younger minds. Even these, he will not profess to fathom or to exhaust; he will not discuss them as a scholar who ventures to the very limits of his researches, but he will make them as light as possible to his pupils, and will grasp only their substance, their essential parts. In a word, he will recollect that he is not a thinker who is toiling and speculating for the advancement of pure science, but a teacher who selects, who appropriates, who simplifies scientific notions for the instruction of his pupils."

In accordance with these ideas so admirably expressed, the effort is made to set forth such truths of Psychology as are thought to be of most importance to teachers in elementary and secondary schools, and especially to those in elementary schools where some knowledge of psychical activities and laws are of the highest value, in the simplest form and in the language of every-day life, even at the risk of being considered unscientific.

The purpose is not to make psychologists, but practical teachers.

PSYCHOLOGY APPLIED.

The precise relation of Psychology to the practical work of the school-room has not yet been fully and clearly defined. Different views are entertained and expressed by men of equal intelligence and equal honesty. Some of these differences are fundamental, growing out of different conceptions of the nature of mind. The germ theory and the architectural theory concerning the nature of the soul afford examples of such differences. Other differences are found, on careful examination, to be only differences in words and forms of expression. The terms, "apperception," "assimilation," "elaboration" and "association" afford illustrations of differences of this sort. The ordinary teacher is not benefited by any extended discussion of these differences, and, consequently, they are, for the most part, disregarded in the instruction given.

Pedagogics, or the science of education, must have as its basis certain laws of mind. These laws must be derived by inferences or deductions from the truths learned in the study of Psychology, Logic, and so forth, and must relate, in part, to

the evolution or devolpment of the powers of the mind, and in part to the modes of Psychical activity. The first step, therefore, in the study of applied Psychology, must consist in gathering up and formulating such laws, and arranging them in natural and logical order.

The second step must consist in deducing or inferring from these laws of mind corresponding laws of teaching. Such laws, rightly formulated and arranged, will constitute the substance of the art of teaching or Pedagogy, so far as this can be presented as a matter of study and instruction apart from actual practice. Practically it will be found most convenient and profitable to carry forward these two parts of the work together, at least to a considerable extent.

While nearly all modes of mental activity manifest themselves in some degree, even in early childhood, it is, nevertheless, true that some forms of psychical activity attain a fair degree of maturity at a much earlier period than others. We shall, consequently, have one law of order of development, another of conditions of development, and a third of means and methods of development. These laws determine the stages of the child's educational progress, and by consequence the material for study which should be brought before the

mind at each stage. They also enable us to determine the character of schools for the successive periods. the courses of studies, and the general arrangement of school buildings, school appliances. grounds, and other related matters.

In order to apply these laws it is evident that one must understand not only the nature of the child but also the nature of the various subjects which are to be studied—that is, he must know what activities of mind are excited by the different branches of study presented according to some predetermined method of teaching. These laws do not, however, determine methods of teaching.

Correct methods of instruction must be inferred or deduced from the laws of mental activity, that is, from modes of the mind's spontaneous action. Some of these modes are evidently common to all stages of life from the table of the Kindergarten to the lecture room of the University. Inferences from such forms of activity afford general or universal laws of mind. Inferences from these laws of mind afford equally general or universal laws of teaching. Other modes of psychical activity, while not confined exclusively to any one period of development. are much more marked and prominent at one stage of development than at any other. Inferences from

such modes of mental action afford special or subordinate laws of mind, and inferences from these give us special or subordinate laws of teaching.

It is obvious that the general laws of mind may be reduced to a very few, and the general laws of teaching to an equally limited number. An effort is made to present these laws, both of mind and teaching, in the simplest possible form and in the language of common life, and to show their most general applications, leaving their more specific applications to be made by the instructors in the various departments. The special laws are treated in the same manner, and with as much fullness as time permits.

The first general law relates to the form or conditions in which the mind grasps or receives the elements or raw materials of knowledge. The second relates to the processes by which the mind reduces these materials to the conditions of real knowledge: and the third, which can hardly be separated from the second, relates to the most effective means of rendering the retention and reproduction of knowledge sure and easy. The second law is the real law of learning and its substance may be stated as follows: "The mind reduces the raw material which it receives to the condition of real knowledge by the processes of

analysis, discrimination, and assimilation." The new is brought into contact with the old, comparison is made, and the new is combined with the old so far as similarities are discovered. The process is largely one of classification. The new is put into proper and rational relations with the old, is modified by the old, and, in turn, frequently modifies the old. Natural inferences from this law will guide the teacher in the progressive steps of instruction.

School organization and government, and other related topics, are treated with constant reference to the teachings of Physiology and Psychology as far as such reference is possible. Necessarily connected with these subjects is an examination of the school laws and school system of Michigan, with such references to the laws and systems of other States and of foreign countries as time allows. The rights, authority, and duties of school officers, superintendents and teachers are discussed with especial reference to such practical questions as are likely to be met in the experiences of ordinary teachers in the public schools.

THE HISTORY OF EDUCATION.

In addition to the work already described, the department is required to provide instruction for a

brief course in the History of Education. This subject covers so broad a field that no exhaustive study of it is attempted. The effort is rather to open the way and indicate the direction for future investigation. Some special pains are taken to call attention to the relation of the present to the past and to the lessons taught by the experience and experiments of eminent teachers and educators in past ages.

ADDITIONAL ADVANCED WORK.

In addition to the work already described, provision is made for elective study of a more advanced character in general Psychology and Pedagogy. Such study may be pursued with reference to the degree of Bachelor of Pedagogics, or for the purpose of rounding out more completely the ordinary courses of instruction in these subjects. A portion of this advanced work consists of a careful comparison of the educational systems of several of the States. in the form of an extended thesis with proper tabulation of details. A study of the educational systems of several of the European countries is pursued in essentially the same manner.

THE LIBRARY AND ITS USE.

The Pedagogical department of the library is well supplied with works upon Psychology and its appli-

cations to teaching, and also with historical and other pedagogical works of various kinds.

The leading American and Foreign educational papers and periodicals are furnished for the use of teachers and students. Constant reference is made to these works, and students are encouraged and, to a certain extent, required to read and review the most important of these in connection with their professional studies and instructions.

The Training Department.

The Training School is a Department of the Normal School. It is established and maintained for the purpose of furnishing opportunity for observation of teaching and for practice-teaching to Normal Students, and thus to train them into fitness for teaching in the Public Schools of the State. That it may subserve its purpose, it includes in its organization a regular eight-grade school of about 300 pupils, and a Kindergarten of about 40 children. The course of study and equipment correspond to those of the best city schools, and in these respects these grades are intended to serve as models of what such schools should be. The grades are arranged according to the national system into four Primary and four Grammar grades, and are numbered to correspond to the pupil's school life—each grade representing the work of one school year. To facilitate classification and promotions the work of each grade is divided into two parts, new classes are formed twice a year, and semi-annual promotions are made.

Each grade is composed of two classes and occupies but one room, thus making what is known as a double-division school. A ninth grade has been added as preparatory to the Normal Departments, and to exemplify High School work and afford observation and practice-teaching in High School classes.

The work of the regular Training Department is under the charge of a Principal, assisted by eight model and critic teachers and a Kindergartener. Each of these teachers has charge of one grade.

The organization of the Training School is based on the idea that proficiency in teaching, as in any other art, demands both knowledge and skill. Knowledge is obtained by precept and observation, skill comes only by practice. Instruction in the principles of education and in methods of teaching, is given in all the departments of the Normal School. The special function of the Training School as a part of the Normal School, is to furnish prospective teachers observation and practice-teaching.

The general plan of work is as follows: Normal seniors are assigned to the different grades. The regular teacher of each grade is an expert and capable of performing the functions of a model

and critic. The first work of a pupil-teacher in a room is that of observation, the school being conducted by the regular teacher both in recitations and management as a model of what a school of that grade should be. When the work of the room has been observed and studied for a sufficient time and the course of study made familiar, the pupil-teacher is placed in charge of one recitation; when this is well done, two are given, and so on until all the recitations of one division for a half-day are compassed: and then, as a crucial test, the entire program of both divisions for the half-day is placed in the hands of the pupil-teacher. When the work of a class or of a room is in the charge of pupil-teachers, the regular teacher becomes a critic-teacher — noting mistakes in knowledge and method, and at the proper time bringing them to the attention of the pupil-teachers with a view to correction. When engaged in the work of observing, pupil-teachers are required to make observation notes, which are submitted daily for inspection and discussion, thus enabling the supervising teacher to see how clearly the work of the room is understood, and its significance and relations comprehended. As a preparation for conducting recitations, model lessons and outlines are prepared by the pupil-teachers and

submitted to the critic-teachers for revision and correction.

Pupil-teachers in the ninth grade are under the immediate supervision and criticism of the heads of the Normal Departments to which their work is related.

The requirements for admission to the training work of the Department are as follows:

1. All students must be members in good standing of the senior classes of the Normal School.

2. They must have satisfactory standings in all the studies required by law for a third grade teacher's certificate.

3. They must have had training in methods of instruction in the subjects of Reading, Language and Grammar, Arithmetic and Geography.

4. If the student is in the Kindergarten course, the work in Kindergarten principles and methods must have been mastered.

5. Before being assigned to work, seniors make a written statement of their age, the studies they have pursued, their experience in teaching, if any, including the places where the teaching was done, the time in months, the kind of school, with the names and addresses of two references from each place; also a statement of the kind of teaching work the student desires training in — as Kinder-

garten and First Primary, Intermediate Primary, Grammar Grades, or High School work. In the assignment of teachers their preferences are considered, and granted as far as the requirements of the school and the judgment of the head of the Training Department will allow.

The pupil-teacher's work covers one-half of the school day for a period of twenty weeks: ten weeks is regularly devoted to forenoon work, and ten weeks to afternoon work — the pupil-teacher thus observes and teaches the program of an entire day.

In the general schedule of the work of Normal seniors, teaching is counted the equivalent of two full studies, and the time required of seniors in this Department is the same as that required in the other Departments for the preparation and recitation of two solid studies.

Pupil-teachers are transferred from one grade to another whenever a change seems desirable as an aid either in development of ability to instruct or power to manage and govern. Transfers from grade to grade are also made as a means of extending observation and broadening knowledge of the work of grading and of school organization — thus affording practical preparation for the work of school supervision.

Students who take the Kindergarten course are required to teach ten weeks in the Kindergarten, and ten weeks in the first or second Primaries, thereby making a sound fundamental preparation for Primary work.

Seniors assigned to ninth grade classes are also required to work one hour a day in the lower grades, thus gaining observation and experience in general school work.

At the close of the afternoon session, the pupil-teachers of the different grades are met by their respective supervisors for purposes of criticism and for special instruction in the work of their grades. On Friday afternoons, all the teachers are met by the head of the Training Department for general criticism, and an informal lecture on some topic of school management, government, methods of instruction, or other pedagogical theme.

As a matter of knowledge and training, all pupil-teachers are required to keep a daily attendance record of the rooms in which they are working, and at the end of each month to make out and hand in regular monthly reports.

A diary is kept in each grade by the pupil-teachers, in which is entered the work of each class and teacher.

At the conclusion of the work of pupil-teachers, a record is made out by all the teachers who have had supervision of their work. This is filed in the office of the Department for future reference, and furnishes, to a considerable extent, data for recommendations. The record covers the following points: Ability of the teacher in management and government, including ability to control, to secure order, attention and responsiveness on the part of pupils, and the getting of work out of pupils in the preparation of lessons; ability in recitation, including general and special preparation, presentation of subjects, and skill in questioning and in illustration; order, system and neatness in work; readiness to receive and follow suggestions; personal characteristics, including appearance, address, manners, habits of speech (correctness, etc.), self-control, temperament (slow or quick); growth during the time of work in the Department, including teaching power, managing ability and government, self-control, and improvement in other respects.

The Department of Mathematics.

REQUIREMENTS FOR ADMISSION.

Students applying for admission to any of the courses are expected to be prepared upon the usual chapters of Arithmetic, and, save in the course in music which has no mathematics and is not considered in this paper, upon Algebra through the elements of simple equations.

THE ACADEMIC WORK.

In all of the courses, Plane Geometry, one year's work in Elementary Algebra (in addition to the preparatory work already mentioned), and an Academic Review in Arithmetic, are required. In all but the Literary and the Five Years' Certificate courses, Solid Geometry is also required, and in those it may be elected. In the Scientific course, Plane and Spherical Trigonometry, and a semester of Analytic Geometry and Calculus are required. These are followed by Advanced Physics and Astronomy, in which their applications are still more clearly set forth. In most other courses they are

elective, thus giving to the student who wishes to teach mathematics, an opportunity of extending his academic work beyond the probable limits of his teachings. Further opportunities are offered by making elective in most of the courses a semester of Higher Algebra, ten weeks of Surveying and ten of Bookkeeping.

The work done in the higher branches is closely related to the more elementary subjects, it being the purpose to prepare the student not so much to teach the former as to be thoroughly prepared to teach the latter. To this end the work in Higher Algebra, for example, is arranged with a view of increasing the power of the teacher in the presentation of the allied chapters of elementary Algebra. The work includes Theory of Equations, Theory of Imaginaries, Higher Series, Determinants, and such kindred subjects as are of special value in mastering the more fundamental chapters. The Analytic Geometry and Calculus are taken up with a similar view, to throw light upon the processes of the more elementary subjects and to prepare for the work in Advanced Physics and in Astronomy, which follow. The student thus comes to a mastery of the allied portions of the branches which he is to teach, while at the same time preparing for what is to follow. The course in Sur-

veying consists largely of practical work in the field, it being deemed wise to offer enough work to give the students a fair knowledge of simple levelling and surveying, and of the usual applications of trigonometry to the mensuration of distances. The elective course in Bookkeeping is designed to satisfy a frequent demand for teachers who are familiar with the subject. It is made as practical as the conditions of a school room permit.

The sequence of the professional work in this department is substantially this: A review of Arithmetic, more or less professional in character, follows the Algebra and Geometry. This is for the purpose of bringing the mature powers of the student to this important subject, and of giving him a clear view of its leading chapters and the methods of presenting them, immediately before he begins his teaching. The merely professional work in Arithmetic follows the Psychology and Psychology Applied, and immediately precedes the practice teaching. It thus applies the Psychology, and is itself applied in the Training School.

The purely Academic work involves certain features which may be characterized as supplementary to the course usually taken by corresponding classes in the secondary schools. This is

in harmony with the general idea already expressed, that the teacher's education should extend beyond the probable limits of his teaching. Thus in the final review of Arithmetic, a short course is given in the use of logarithms, that those who do not study Trigonometry or take up the subject in the Algebra accepted from approved High Schools, may not be ignorant of the practical value of a logarithmic table. So also in Geometry, supplementary to the usual modified Euclidean course, and to the independent treatment of a large number of exercises, the following features form an important part of the work: First: The methods of rationally undertaking the solution of unsolved problems and the demonstration of unproved theorems. Second: The consideration of the ordinary propositions of Plane Geometry with reference to general figures such as polygons involving reëntrant angles, complete quadrilaterals, positive and negative segments of lines, and other elementary features of Modern Geometry. Third: On the completion of the work in Solid Geometry, a short course in Modern Geometry is taken. In elementary Algebra features like detached coefficients, the various checks to be applied to operations, readiness in mental solutions, the principles of symmetry and homo-

geneity, and such others as can be used to practical advantage are early introduced and constantly employed throughout the course. It should be added that in connection with the Academic work, a few lectures on the historical development of the subjects in hand are given with the courses in Algebra and Geometry. A similar feature is found in the purely professional course in Arithmetic mentioned hereafter. It is the purpose to give the student, by a rapid review of the evolution of the subjects, an understanding of their present status, and some intimation of their probable development in the future.

PROFESSIONAL WORK CARRIED ALONG WITH THE ACADEMIC.

Carried along with the Academic work, and forming an important part of each recitation, is a considerable portion of the professional work. The student is not allowed to lose sight of the fact that this is a Normal School, and that the subject studied by him in class today is to be taught by him tomorrow. To this end, especial attention is given to making each recitation hour a model. Whatever development may be necessary for the advance lesson is given as the future teacher may profitably give it to his classes, with reasonable

modifications to meet the changed circumstances. The materially different methods commonly employed in presenting the various chapters, together with their comparative advantages, are explained, as are also the uses and abuses of rules, definitions and "principles" in the various stages of teaching the subjects. In Arithmetic, in connection with each chapter reviewed, is discussed its relative value, both from the utilitarian and culture standpoints, in the life of today. Not only is it the desire to have the instruction given in a model manner, and to lay before the students such discussions of the matter in hand as shall be of value to them in their profession, but also to demand of them that excellence which shall form for themselves good habits in the school-room. To this end especial attention is given to requiring clear explanations of processes, accurate statements of operations, and general neatness of written solutions. While the utmost freedom of method is, in general, allowed the student in his work, the test of excellence is understood by all to be, Would this be a satisfactory presentation of this subject to a class? Students are not slow to enter into the spirit of the plan, and the results in the schools of practice are proving that the professional work carried along with the Acad-

emic is of greater value, in this department, than that which is separated from it.

PURELY PROFESSIONAL WORK.

The purely professional work in this department consists principally of a course of lectures during a portion of each semester upon the teaching of Arithmetic. These professional lectures relate to the objects in view in the study of mathematics in the common school, the historical development of the subject and of the methods of teaching it, the present discussions of educators at home and abroad concerning it, and finally the work of each of the eight grades in detail.

The work in the schools of practice will be generally set forth in the paper by the Director of the Training School. It may briefly be said that the head of this department visits the classes in his work in the Training School as often as practicable, and is in as frequent communication with the pupil-teachers and the critics and model-teachers as the welfare of the school seems to demand. He is consulted by the Director as to the general course to be recommended, and by the model teachers as to the methods to be employed in carrying out the general policy of the school.

The practice work of which this department

has especial charge is that of the preparatory classes in Arithmetic and Algebra. These classes are formed for such pupils as are only slightly deficient in their preparation for the normal classes in the branches named. They are taught by seniors who are preparing especially for High School work. The work for these teachers is somewhat fully outlined. but is subject to modification and to detailed arrangement by the pupil-teacher. At first the outline is quite complete. more discretion being allowed as the teacher advances. Especial attention is given to the encouragement of teachers-in-training in the use of the library, and to the seeking of the best methods of presenting the subjects in hand. The pupil-teacher files with the head of the department each morning an outline of his work for the day. and makes a weekly report in writing of the general difficulties encountered. This report is discussed at the general meeting of the department and the teachers-in-training the next afternoon. The classes are visited daily, usually both by the head of the department and by one of his assistants, and daily criticism and assistance are given as required.

THE LIBRARY.

The Mathematical Library consists of several hundred well selected volumes upon the subjects

taught in the school, besides a reasonable number intended for post-graduate study. It includes some of the best works upon the subjects in English, French and German, and a few typical ones in other languages. So far as possible, English works have been selected, but where our literature is deficient, the other modern languages have been brought into use. Especial attention has been given to securing the best works upon the Pedagogy of Arithmetic, and in this branch the collection is of great excellence. While a considerable portion of this is necessarily German, it has been of great value to many who have desired to make a special study of the subject.

In addition to the general library, the department has a small collection of about a hundred volumes, composed of those works that can be used to the best advantage in the class-room. Such are certain works in the higher branches to which students in the advanced classes are referred under the immediate guidance of the instructor, and advanced works on Pedagogy. The entire collection has been recently selected with great care and is very free from works not suited to the needs of the school.

APPARATUS.

The department is supplied to a fair extent

with apparatus. The usual instruments of the surveyor, including level, transit, compass, chains, levelling rods and pins, are placed in the hands of the student, under the care of an instructor, during the spring semester. The various standards of measure, common and metric, are also at hand, both for use in the classes in the Training School, and in the lectures in the Normal Department.

In the way of both library and apparatus, the State has recognized the needs of the department and has not failed to respond to such requests as have been preferred.

The Department of English.

The courses in English in the Michigan State Normal School may be conveniently classified into three distinct departments: a preparatory, a secondary, and a college department. Students not prepared to enter the secondary department are not considered members of the Normal School proper: their preparation for entrance upon the regular courses requires forty weeks of daily recitation in the Elements of English Grammar and Composition, and twenty weeks of reading in the lighter English Classics. The secondary department includes all the instruction usually given in our secondary schools: ten weeks are given to an Academic review of English Grammar, twenty weeks to the elements of Rhetoric, and nearly a year to English Literature. Requirements for admission to this department are practically the same as for entrance to our best Michigan High Schools, such a knowledge of English as will enable the student to enter upon a rapid review of

English Grammar, followed immediately by a formal study of the Elements of Rhetoric. The college department adds two full years of daily recitation to the courses already outlined, a semester being devoted to each of the following subjects: American Literature, Old and Middle English, Study of Masterpieces, and the Science of Rhetoric.

The first question which naturally suggests itself in connection with Academic instruction in English is: How does such instruction differ from that given in any other school? Can there be, and ought there to be, a distinctively Normal School Academic instruction? The department does not forget that the best professional instruction in any subject is imparted through the living example of an inspiring and enthusiastic teacher: still, it seeks ever to keep in mind the fact that nearly every student of every class is himself to become a teacher. It feels called upon, therefore, not only to base its methods of teaching upon pedagogical and psychological principles, but, in daily Academic study, to emphasize the reason for following any particular method. The best professional instruction in the department, indeed, is accomplished in just this direction. Such a purpose, constantly attended to, has not been found

to weaken the culture value of literary work, but to add to it rather. As a single illustration take the subject of harmony in Elements of Rhetoric. The text-book gives a few rules, a few disconnected sentences, a few exercises for rearrangement. Just here the teacher has an admirable opportunity for professional instruction. He will spend a class hour in reading aloud some carefully selected passages of harmonious prose and poetry. If he be a good reader, as he ought to be, if he lend to the rhyme of the poet the beauty of his voice; or, better still, if the entire class shall recite some exquisite gem of melodious poetry, they will have caught an idea of harmony in literature which would have been quite impossible from the mere study of formal rules. A single lesson of this kind opens up the whole subject of the value of a formal study of Technical Grammar and Rhetoric. Do these subjects, as usually taught, contribute directly or indirectly to the acquirement of a correct, forcible and attractive style of expression? What method, therefore, should be employed in teaching them? Such questions force themselves into prominence continually in Academic instruction, giving to nearly every recitation a professional spirit.

From the foregoing statements it becomes at

once apparent that there can be no sharp line drawn between professional and academic training in the English Department. In the general subject of literature the best professional teaching, apart from regular recitation, comes from some half-hour lecture, not formally prepared, but suggested possibly by some stimulating question of a wide-awake student. The instructor feels called upon to be full of his subject, a lover of it, enthusiastic in teaching it: then, at any opportune moment, regular class-work may be laid aside and the hour devoted to helpful suggestions upon teaching literature.

Apart from such incidental professional instruction, every senior is required to attend twenty formally prepared lectures upon methods of teaching English Grammar and language in the lower grades. If his purpose is to make special preparation for teaching English, he is then required to teach Grammar and Language Lessons in the lower grades; or English Classics, Grammar and Composition in the preparatory department for one semester. This teaching is under the direct supervision of the Director of the Training School or of the head of the English Department. His work is constantly under the observation of a competent critic whom he is to meet daily; or

at frequent intervals, for professional criticism. The equipment of the graduate of our highest course, for teaching English, may be briefly summarized as follows: He has pursued the average college course in Grammar, Rhetoric and Literature, both himself and his teachers having a special end in view, the profession of teaching. In the Training School, or Preparatory Department, for an entire semester, he has taught Language Lessons, Grammar and Composition, or English Classics (some one or all of these), under the constant supervision and criticism of a model-teacher.

The above sketch constitutes, of course, but a bare outline of the work in English. It sets forth as clearly as may be, perhaps, in brief space, the plan and purpose of the Department. It aims to prepare teachers in English for any and all grades of public school work leading up to the college. The fact that throughout the state, in all departments of excellent schools, there is an increasing demand for its graduates, seems to settle conclusively for Michigan, at least, the function of its single, strongly equipped State Normal School.

There remains to be mentioned, perhaps, the special facilities of the Normal School for giving its Academic, literary work, the professional char-

acter and tone referred to above. The English Department has, for several years, been collecting a departmental library, quite distinct from the general library. Several book-cases of selected English and American Classics are distributed through its recitation rooms, and the volumes are put entirely at the disposal of students studying literature.

A simple outline of the work in a single author will serve as an illustration. Let it be Longfellow for instance. The class spends two or three days in making his acquaintance. The student copies into his note-book a few important references to the general library, biographical and critical. Biographical articles are at once assigned to different members of the class to read and make an oral report upon, during class-hour. By a distribution of work two or three recitations suffice for quite a full outline touching the author's parentage, home-life, education, travels, etc. Our next step has been to spend a number of recitations in the critical study of a number of the poet's shorter poems. Our plan here has been, regardless of length of lessons, to study stanza by stanza, and sometimes line by line, noticing melody of versification, felicities of diction, aptness of imagery, etc.

No elaboration of this high grade of work is needful here; the main point is the freedom of the department from all annotated selections of the poet. A complete volume of Longfellow's poems is in the hands of each student. With the help of the teacher he makes his own notes: he is allowed to take the volume to his own room, is encouraged, thereby, to turn over its leaves, to read here and there sympathetically: is required to report orally upon some short poem not read in class; and, finally, after reading a critique in the general library as a guide, to write an essay in criticism upon some one of the longer poems.

The best students in such classes, at the close of a half-year's work, have full note-books. They have made a bibliography that will be of service to them in their future work as teachers: under the direction of their instructor, they have prepared a list of representative selections in prose and poetry, adapted to use in the schools: they have added to these lists such selections as were pleasing to their own tastes; in a word, they have been learning how to use a reference library, and how to read, creatively, independently of annotated texts.

The purpose of this article excludes any discussion of the more common and generally accepted

methods of teaching English. It may be said in conclusion, however, that the Department considers it a part of professional instruction to hold before the minds of students the importance of an ever-growing knowledge of the English Classics, as a part of the liberal culture of today. Every student is urged to become acquainted with other languages, the more the better: but the devotion of the larger part of his time to foreign tongues to the neglect of his mother speech is deprecated and strongly condemned. "One's power over his native language is the guage of the power and training of the man," said President Carter, of Williams College, a few years ago. Let us expand President Carter's phrase, "power over his native language," into Herbert Spencer's definition of style: "The right choice and collection of words: the best arrangement of clauses in a sentence; the proper order of its principal and subordinate propositions: the judicious use of simile, metaphor, and other figures of speech: and the euphonious sequence of syllables." What studies in the curricula of our schools can be made more fruitful in just this regard than the study of the great masters of English speech? For every teacher seeking to develop in the youth of the land something of this "power over the native

language." such questions are pertinent and professional. How may copiousness of vocabulary be best secured? By no means better than by letting the English-speaking student come to Milton with his 8,000, and to Shakespeare with his 15,000 words, ready at all times to thumb his English dictionary with the same faithfulness as his Latin and Greek lexicons.

How may felicity and euphony of diction be added to copiousness of vocabulary? How may ease, and clearness and vigor in the construction of sentences be acquired? By letting the rhythm and balance and sublimity of the Miltonic movement be but feebly grasped even, by committing to memory, among many passages a part of the opening lines of Paradise Lost; by expanding some of Bacon's essays, keeping sharply to his thought; by stripping some of Tennyson's ornate passages of their adornment, and expressing the gist of his thought in simple, homespun English; by hearing Carlysle's sentences ring in class; by knitting the soul to the chasteness and simplicity of Wordsworth's poetry — the teacher of English studying Herbert Spencer's definition of style phrase by phrase, shall find in the large variety of class-work in English one of the best and surest means of acquiring a masterful expression in the native language.

The Department of History.

The course holds throughout this distinct purpose. the equipping of teachers. It embraces one line of work including two successive steps: 1 The acquisition of usable knowledge by the investigation of historical facts, mental training being coincident. 2 The training of the mind in the fullest use of its faculties, employing investigation only to furnish added material necessary to the main purpose. The first step is investigation. the second pursues the results of investigation. The first. aims to make the student; the second. to train him into a teacher.

The Outline of the Elementary Course.

THE SUBJECTS UNDER CONSIDERATION.

This course has a twofold object: 1 In relation to the entire course it is the school of observation for the "Professional Training" classes in the higher grades of studies. 2 It furnishes

instruction to pupils who have not already obtained elsewhere knowledge sufficient to admit them to the advanced classes. The subjects considered are coördinate with those taken in the High Schools, and include studies in the history of the (a) United States. (b) England. (c) Greece and Rome, (d) Continental Europe. The history of the United States is preparatory to all courses, the other subjects find place in the specialized courses — the English in the literary, the ancient and the modern in the classical courses. Students are accredited with any or all of these subjects from the High Schools.

THE MATERIAL INCLUDED IN OUTLINE TOPICS.

An exhaustive outline is in no case attempted. Indeed, it would not be possible, even if desirable, in the time allotted. But it is hoped to accomplish, in very narrow limits, a little real historical study. To this end selections are made of (a) brief periods representative in facts and ideas, (b) periods upon which some real "sources" and contemporary literature are available, (c) periods which exhibit the genius and life of the people, (d) periods which exhibit (1) causes, (2) relations, (3) groups or classifications, (4) great historical results.

As a choice is made in material constituting periods, so selection is also made within the period itself, e.g. Small attention is paid to details of campaigns in wars but much to results. Single battles are considered only when by so doing some characteristic fact may be discovered. The number of facts is not made the criterion of knowledge, but the rational insight into their significance. The effort is to stimulate and feed the desire to know and to make the training as exact and thorough as that in other sciences or languages.

TEXT BOOKS AND OTHER AIDS.

A text book, though not always uniform in the entire class, is supplied the pupils. The library affords quite abundant collateral material. This material is utilized by careful book references for somewhat extended research as occasion arises. The topics selected for general reading are typical and used as representative rather than exhaustive. The history section in the library contains about 1,000 volumes. During an average week in the term just passed over 950 books were used by the students in the several classes. The department is also measurably well supplied with charts, maps and photographs for illustrative uses.

The Outline of the Normal Course.

This part of the work is educational in aim: 1 To give the pupil control of his own mind. 2 To develop a method of historical study and teaching. Historical knowledge is a means to this end. The course embraces the following subjects:

STUDIES IN POLITICAL GOVERNMENT AND DEVELOPMENT OF THE UNITED STATES.

The topical plan is pursued throughout the course. During the first half of the time allotted to the subject the student is furnished with material carefully selected with the aim in the end of building up a composite whole in history. Much of the material has been viewed in previous study, but is now questioned with a specific object which is held in the mind of the teacher and to which the class is being led step by step. Having completed the view of the material, the class, under the directing questions of the teacher, formulates an outline of the subject which then first appears to the pupil as a topic, that is as the connected chain of events in which an idea is developed. Many of these topics are again elaborated into monographs while others are used merely in reviews. Some of the topics which thus pass

in examination are: 1 The political institutions of the colonies, which though forming separate topics and studies as such, are at the same time so treated as to exhibit in them the sources of the national constitution, thus binding the parts into a whole. 2 The power which makes a government (a) in England, (b) in the colonies before '76, (c) the revolutionary government from '76 to '81, (d) the state governments, (e) the confederation, how different from (a), (f) the federal constitution, compared with (a), (c) and (e). 3 The war between particularism and nationalism. 4 History of Slavery.

The same topics are seldom presented to successive classes, the selections being determined very largely by the interest of the class at the time. Accurate references are furnished to books both general and specific, on the theme in hand. The recitation hour is occupied in sharp, rapid questioning to develop and fix clearly the important steps in the evolution of the historical idea under investigation. There is demanded accurate discrimination, rapid reasoning, both inductive and deductive, clear logical trains of thought and ability to keep to them, in short, intense mental activity for the hour. This part of the work has little to do with training in style of expression,

perhaps not enough, but it has to do with bringing under control every power of the mind for immediate use.

STUDIES IN THE CONSTITUTION OF ENGLAND.

The student in this course is put more upon his own responsibility than in the former. He works upon specified topics the outlines and reference lists of which are mainly of his own making. The class hour instead of being used to mold his habits of thinking is used to examine the results of his thinking — to give direction where profitless side topics are started, to suggest where time is being lost, to expose untenable and one-sided views. The results of his research are embodied in papers somewhat formal but not reaching the dignity of theses. These themes are discussed in class and the student is expected to defend his position.

The following themes are among those used in the class in 1892: 1 The effect of the Norman Conquest upon English liberty. 2 The struggle for self-taxation. 3 Royal absolutism and Parliamentary government. 4 Party government and constitutional monarchy. 5 Political reforms. 6 The evolution of the cabinet as an agent in administration.

No claim is made for exhaustive work, but only that it is accurate and scientific as far as it goes and does what it claims to do.

STUDIES IN GENERAL HISTORY.

This course is the final one in historical study. Its aim is to complete the whole of that which before has been viewed in parts or limited periods. It is too much to call it universal history or philosoph of history. It is rather a universal view of the student's knowledge of history. The method is inductive. First, the student seeks to discover from the data of the most ancient period previously examined by him, the dominant historical ideas which marked the progress of that race and made its civilization what it was. He then traces these ideas through the successive periods, marking how each bears the light on, reaching new and higher ideals, a new civilization born of the old. The study is therefore to determine what ideas have stood in history in all time and so, if it be possible, to exhibit the true unity of history, e.g. The religious ideas. The idea of political polity. The idea of individualism. The idea of church polity. The idea of individual possession in land. Freedom in learning, in government, in religion, etc. Two or three quite lengthy papers are

usually required, and also some attention is given to the preparation of biographical sketches. The class in 1892 presented papers on the Rise of Papal Power and The Organization of the Roman Empire. The library is in constant use to settle disputed points, verify statements, and to fill gaps in essential knowledge.

THE TEACHER'S VIEW OF METHOD.

The course embraces general discussions and somewhat formal lectures upon: 1 The nature of history. 2 Its relation to other sciences and the help which they afford in teaching history. 3 The scientific or inductive method applied to history. 4 The teacher's bibliography. 5 The psychological basis of the method. 6 The consideration of the conditions which group historical material into primary and secondary lessons.

The training in primary or oral history embraces (a) the preparation of history stories, (b) the presentation of lessons before the class, (c) lessons in questioning, (d) reproduction and tests of knowledge. More than half the entire time of the course is spent upon the subject of primary teaching, since if the teacher is once

imbued with the spirit of oral teaching there can be no difficulty in using the text book.

The training in text book teaching aims to direct to the pupils in working out for themselves their own methods. To this end they are asked to observe in the classes in the elementary course, to write critiques upon the lessons in the same, to prepare and present lessons to these classes. A good deal of time is given to developing outline topics suitable for grammar grades, and to combining these series into larger wholes.

These lessons are at first based on material selected from reprints of original documents, e.g. Plymouth Compact, Magna Carta, Columbus Letters, Colonial charters. Later the lessons are developed from the school text-books, connected with discussions on reproduction and questioning. It is hoped by this means to give the pupils some practical idea of the work in the grades and at the same time to build a foundation for the method of the higher schools. The most that any training in the inductive method of teaching history can hope to accomplish is to furnish a model, wrought out and applied in a very limited number of cases.

Actual practice in conducting classes in history is obtained in the grades of the Training School. This practice teaching is under the general direc-

tion of the Department of History, and aims to reduce what would otherwise be but vague theory, acquired in one part of the course, to a real and efficient method, as applied in the other.

The Department of Physical Sciences.

WHAT IS INCLUDED IN THE TERM PHYSICAL SCIENCE.

It is not possible to separate from each other by a well-defined line the various branches of knowledge. Especially is this true of the so-called sciences. All science is one. The sub-division of the general field has its ground rather in convenience than in any logical necessity. The classification of the sciences made in this school is a common one, has the merit of convenience, and is as logical as any that has secured general acceptance. The following titles will be found under the general head, Physical Sciences, in the various courses of study of this school:

1. Physics I.
2. Physics II.
3. Physical Laboratory Practice.
4. Training in the Physical Sciences.
5. General Chemistry.
6. Advanced Chemistry.
7. Physical Technics, including Advanced Laboratory Practice.

8. Advanced Physics.
9. General Astronomy.
10. Instrumental Astronomy.
11. Sanitary Science.
12. Meteorology.

The first five of the above constitute a natural group designed to give some knowledge of the content and the methods of the physical sciences, and such skill in manipulation as are needed in general teaching. The four following numbers also form a group by themselves, adapted to the preparation of special teachers of the Physical Sciences in the High Schools of the State, or to fit for this work such superintendents and principals as expect to have these subjects in charge. The last three numbers are post-graduate studies.

1 AND 2. — ELEMENTARY PHYSICS.

This term includes Physics I and Physics II of the curriculum. Physics I is an elementary course upon matter and energy, and embraces the topics usually treated under Mechanics and Heat. In Physics II the subjects Sound, Magnetism, Electricity and Light are considered. As far as may be these courses are made independent of each other to accommodate the large number of those who are credited with this branch of study from

some other school, but who wish to repeat at least a portion of the general subject. Each course consists of a daily lesson for twenty weeks with additional laboratory practice.

The conditions for entering upon this subject are, the completion of Algebra and Plane Geometry and such further knowledge and maturity as this degree of advancement indicates in an ordinary American school.

The course is richly demonstrative. To avoid the vice of hasty generalization, and to disengage principles from the particular pieces of apparatus used to demonstrate them, the same principle is reached in many ways and with a variety of material. Much attention is given to the care, handling, preservation and use of apparatus, and this not alone by precept: the members of the classes actually handle and use the demonstration pieces, learn their construction and study the conditions under which they can be used with the greatest safety and efficiency.

The students' laboratory practice of this subject follows what is called the "collective" system. That is, the members of the practicing section all do the same work at the same time. For this purpose there are as many tables and as many duplicates of each piece of apparatus as

there are members of the section, usually ten. The most valuable part of this work is an elementary course in exact measurement. For this purpose each student is supplied with a set of fine scales divided in one-fifth mm. and one-hundredths in.: a balance turning easily with 1 mg.: a good set of weights, specific gravity flasks, picnometers, etc.: burettes and measuring glasses, and the usual sets in Heat and Galvanism. Considerable attention is given to the graphical method of recording results, as barometer and thermometer curves, curves showing the efficiency of a battery, and the like.

The work in problems and exercises is extended and strongly specialized. These are made as practical as possible by giving actual cases under ordinary conditions, e.g. by requiring allowance to be made for the weight of a lever or a pulley-block, the diameter of a rope, friction, the resistance of leading-wires, etc. Bibliography receives considerable attention. Topics are assigned for library work until the class becomes somewhat familiar with the great authors.

3. — LABORATORY PRACTICE.

This is an experimental course consisting of daily work in the laboratory for ten weeks, with

outside reading, calculation and graphical problems. A portion of the work is pure manipulation — working in glass, cleaning and setting up galvanic cells, etc. — but in the main it is a course in physical measurement on the "separate" system, following and extending the "collective" course in Elementary Physics. Each pupil works with a different piece of apparatus and continues its use until he has mastered it and secured from it the best attainable results. As he has completed a course in Elementary Physics he is prepared to take any experiment within the range of this subject. Thus it is not necessary to duplicate pieces of apparatus, and this saving in the cost of extensive duplication can be applied to the purchase of apparatus of a higher grade and greater variety, and thus the course be made more extended and exacting than is possible on the usual "collective" system. Moreover, many pieces of apparatus in Mechanics and Heat have optical or electrical accessories which can be understood and put into action only by students who have completed a course in Elementary Physics. But the real reason for strongly preferring the "separate" system in any serious work in laboratory practice is the facility which it affords for individual and independent work. Each student is treated separately

and has exercises set him according to his observed deficiencies and capacity.

No text-book is used but problems are assigned from a printed list containing a brief description of apparatus and materials and a statement of what is to be done with them. Except in the most general way no indication is given of the effect to be produced, but the student is to observe, record and explain all effects. The list contains copious references to important practical works, which, in addition to sets of physical and meteorological tables, are contained in the special library of the laboratory. It is the aim of the course to impart some notion of the methods and the more pressing problems of exact science, and to secure to students the acquisition of such manipulative skill as will render them safe, courageous and intelligent experimenters in any of the sciences of nature.

4. — TRAINING IN THE PHYSICAL SCIENCES.

This is a course in methods of teaching the Physical Sciences with special reference to ungraded schools and to the Primary and Grammar grades of graded schools. High School methods are studied in connection with Technics. The course consists of a theoretical part upon the

content, the logic, the history and the aims of the Physical Sciences, and deductions from these sources as to superior methods of teaching; and a practical part in which detailed courses of study and methods of instruction are given and illustrated by model lessons and actual teaching in the Training School.

The work begins by a somewhat extended study made by the members of the class in the library, of a number of typical science courses, in American, English, French and German schools. Copious notes are taken which are collated and examined in class with the purpose of ascertaining what is common to these courses, either in content or apparent purpose, and how these lessons are related to the other subjects taught in these schools. This work is usually carried forward with much intelligence and enthusiasm and furnishes the basis for the main deductions of the course. Next comes a briefer course in reading from the great systematists: Faraday, Helmholtz, Maxwell, Clifford, Draper, Whewell, Mill, Jevons and a few others, concerning the spirit and method of scientific work. This reading is partly by topic and partly by volume-and-page reference. After collating the above readings the class is pre-

pared for a brief course of lectures, demonstrations and practical work.

5. — GENERAL CHEMISTRY.

This course consists of a daily morning lesson, mainly in Inorganic Chemistry, for twenty weeks, with additional laboratory practice in the afternoon, and a Saturday morning lesson upon laboratory economy. This subject is found only upon the Scientific and Literary-Scientific courses, and, elective in place of Zoology, upon the English-German and Shorter-German courses. It follows and builds upon our work in physics, so that many topics usually presented in connection with this subject need at best only a brief review.

The attempt is made to have the class apprehend a chemical reaction as a whole and not merely with reference to a gaseous or solid product which may be disengaged. Especial attention is given to the chemistry of air, water, and the common metals; to gaseous manipulation, blowpiping, laboratory equipment, and to the physical conditions of reactions.

6. — ADVANCED CHEMISTRY.

Students in General Chemistry, except those in the German courses, continue the subject for twenty weeks further under the above head. An

elementary course in qualitative, gravimetric and volumetric analysis are given and the members of the class learn something of the problems and methods of modern chemistry. The work is, as in the preceding course, kept within scientific lines instead of being specialized on the technical side. The class uses the same rooms and equipment as the preceding class. Incidentally considerable reading is done by the members of the class and the attempt is made to interest each member in some sort of practical work which he can continue, and in some chemical periodical which he will desire to read, as a teacher.

7. — PHYSICAL TECHNICS.

The subject of this course is the laboratory method of instruction. It is the practical part of the work assigned for the preparation of special teachers of the Physical Sciences in our High Schools, the course in Advanced Physics being the theoretical part. In addition to lectures, fortified by references to Robins' Technical School and College Building, Arendt's Technics of Experimental Chemistry, Weinhold's Experimental Physics, and Newth's Chemical Lecture Experiments, the members of the class have a brief course in advanced physical measurement; make

detailed plans and specifications for fitting up an ordinary school room as a laboratory for physics or chemistry, or both, and with various degrees of elaboration: prepare lists of apparatus and materials of varying cost from $50 to $1,000; and report in full with drawings and price lists upon some High School or College laboratory which is visited for the purpose. Most of the time, however, is given to actual construction. Each student does assigned work in repairing apparatus: constructs some important piece; has practice in testing balances, galvanometers, etc., and reports monographically upon some assigned topic. Lectures upon High School methods complete the subject.

8. — ADVANCED PHYSICS.

Those who enter this class have had work in Trigonometry, Higher Algebra and the elements of the calculus, and are prepared to master one of the ordinary advanced text-books. The attempt is made to enable the members of the class to read with profit mathematical physics as presented in the scientific books and periodicals of the day. The course, however, is not confined to mathematical physics but demonstrations are given in topics which are treated less fully in Elementary Physics, including a course in lantern work, a

course in instruments for exact measurment, in polarized light, etc.

9. — ASTRONOMY.

The essence of this work consists in the actual observation of the heavens with the unaided eye, an opera glass and a small telescope during one school year. As far as possible great familiarity with the constellations is secured together with a full set of drawings showing the position among the stars and the telescopic appearance at frequent intervals of the moon and the planets visible under favorable circumstances during the year. A small observatory with a five-inch equatorial by Alvan Clark & Sons, a three-inch transit by Brandis, a simple chronograph, a register and a chronometer by Negus are placed at the service of the class. Incidentally a High School text-book is completed.

A special description of the post-graduate work is omitted.

PROFESSIONAL VS. ACADEMIC WORK.

Doubtless it would be possible to separate the general from the professional part of the work in each of the above-named subjects of study; still it would be difficult, since it would lead to the examination of every lesson, and unsatisfactory

as it would leave out of account the tone of the school. Every lesson is a lesson given to those who intend to teach the subject under study and is colored through and through by this fact. Even if the course as laid down were precisely like that of a High School or College still the reaction of the pupils upon this work would be different and give a peculiar character to the work. An observer casually present in any one of the classes would gain this impression from the attention given to minute facts and conditions: the space devoted to the history and bibliography of the subject: the selection of the material for illustration; the large amount of time given to the reproduction of different experiments before the class by members of the class: the attention bestowed upon the different forms, the cost, the selection and the care of apparatus; and more than all by the professional spirit of the class. The subjects, Methods, Technics, and History and Bibliography of Science, to which the term professional is often limited, deserve this appellation only in the sense that they are more exclusively professional than the other studies named above; and yet these subjects are used as the basis of a thorough review of the matter of science and so belong also to the list of general studies.

To a certain extent the ordinary academic lesson is taught as a model lesson, but this exemplary character of the instruction can not be insisted on or carried far. The Normal student has some maturity and has also special purposes in study, and so can not, in general, be taught precisely as it would be wise for him to teach less mature pupils in the school to which he is destined.

The impossibility of good teaching without large and exact knowledge is constantly urged. While the Normal student must be able to state the problem of acquisition in terms of discipline, and must to a certain extent be in the habit of studying himself and others in the act of learning and of observing the effect upon the mind of different methods of acquiring knowledge, it is still more important that he should learn to love knowledge for its own sake and to esteem acquisition as scholarship, as equipment and as stimulus.

The Department of Natural Sciences.

Using the term Natural Science in its restricted and modern sense it is the function and privilege of this department to deal with Life and its phenomena as manifested through organized matter. A complete understanding of many of the living forms can be reached only through a study of their early progenitors, so that Geology forms a necessary and valuable adjunct of the work. There is thus established between each two of the four sciences treated, Botany, Zoology, Physiology and Geology, a logical connection and close bond of union. An education along any one of these lines can lay no claim to completeness which entirely neglects the others.

Appreciating the failure of our present systems of elementary education to supply that which *best* fits the pupil for the higher work of college or of life, the department endeavors to secure from those coming within its grasp the following results:

1. The training of the senses, particularly the eye, in close, accurate observation.

2. The preparation of written records of these observations in clear, accurate, concise language, supplemented for the most part with truthful delineations of the same by means of drawings.

3. Logical reasoning upon these observations, the deduction of scientific truth and generalization.

4. The acquisition of useful knowledge.

5. The skillful manipulation of apparatus; the use of scientific methods in obtaining knowledge, either directly from Nature or from books, and hence the ability to carry on independent investigation.

6. A love for scientific truth.

7. Finally, the ability to secure the above results from others.

The desired sequences and the general nature of the work given are shown in the following:

SCHEME OF COURSES.

Structural Botany.
Systematic Botany.
Structural and Comparative Zoology.
Systematic Zoology.
Biological Technics. Lithological Geology.

Physiology. Dynamical Geology.
Entomology. Historical Geology.

The above are all ten weeks' courses, except the Structural and Comparative Zoology, to which twenty weeks are devoted. The connection of the department with the Training School and its work there are set forth by the Director.

STRUCTURAL BOTANY.

This is a practical course of laboratory work, supplemented with lectures, recitations and general reading. Detailed mimeographic notes take the place of a text, and with the material before him the pupil makes his observations, prepares his drawings and writes out careful descriptions. Periodic reviews upon the class and laboratory work are held and upon both a final examination. Besides the discipline and some ability to carry on independent work there is secured a firm foundation of facts for the later botanical work of the teacher.

The work is taken up under the following heads:

1. Microscopical Technique.
2. The Properties of Protoplasm.
3. The Products of Protoplasm.
4. Studies Upon the Cell.

5. Cell Aggregation and Tissue Formation.
6. Seeds and Their Germination.

SYSTEMATIC BOTANY.

Botany, taken up during the second semester of the first year, is a required study in all the courses except the Latin-German and the Music Course. The first part of the semester is devoted to biological study, and the work in Structural Botany is stated under that head.

To comprehend fairly the significance of the structures found or the terms used in Phanerogamic Botany, the student should have some elementary instruction in Cryptogamic Botany. This should include, at the very least, the characteristics of the main divisions, the advance in development which marks the step from one to another, the divisions into classes and the examination of a typical plant in each class. Passing thus from Protophytes to Phanerogams the student gets a glimpse of the entire field. It is true he gets only a glimpse, but it gives him some conception of the principles of classification, a conception enlarged and rendered more intelligent by every subsequent step of his study.

In Phanerogamic Botany lessons are assigned by topic, the text of Gray or Wood being used

indifferently. The analysis, description and determination of seventy-five plants is required. In classification special attention is given to the characteristics of the orders, that the plant may be known by its relationships, and the foundation may be laid for recognizing, after some degree of advancement, the broader affinities by which families are grouped together. Comparison of families constitutes the last portion of the work and is carried as far as opportunity permits.

The brief time allotted to the study compels a choice between the detailed work which lays the foundation for specialization, and the consideration of the aspects which come within ready observation. The training in the first method, which is gained from the biological work, allows the second method to be followed more freely in the presentation of the general subject. The latter is the method chosen.

STRUCTURAL AND COMPARATIVE ZOOLOGY.

With the knowledge of laboratory methods and skill in the use of the microscope acquired in the practical work in Botany the pupil is prepared to enter at once upon a similar line of work in Zoology.

A detailed study is made of a type of each of the sub-kingdoms, after the completion of which a related form is made the basis of independent study. At each step the pupil is thus thrown upon his own resources in order to test the quality of his previous work, to secure independence and to obtain a basis for the comparative work. The forms studied are compared as to their locomotive, digestive, circulatory, respiratory, excretory, nervous and reproductive systems. The forms given below are studied in order, those in parenthesis constituting the independent work :

1. *Protozoa*. Amoeba, Paramecium (Vorticella).

2. *Porifera*, Calcareous Sponge (Fresh Water Sponge).

3. *Coelenterata*. Brown Hydra (Green Hydra), Actinia.

4. *Echinodermata*, Star Fish (Sea Urchin).

5. *Mollusca*. Mussel (Oyster).

6. *Vermes*, Earthworm.

7. *Arthropoda*, Crayfish, Grasshopper.

8. *Vertebrata*. Frog.

SYSTEMATIC ZOOLOGY.

This course is designed to supplement the preceding and to prepare those who can devote

but little time to Zoology to do the science work of the grades. It comprises recitations, lectures, reading and practical work upon collections, the whole being shaped to meet the wants of the teacher. Outlines of talks and object lessons upon familiar forms are prepared and discussed. The animal kingdom is classified and the principles of identification taught.

BIOLOGICAL TECHNICS.

A course of practical work designed to train teachers in the collection and preparation of Natural History material for purposes of study and illustration. Excursions are made to the field and biological material collected and cared for. Histological mounts of both hard and soft tissue are prepared. Instruction is given in the practical work of skinning, preserving and mounting birds and small mammals, the services of a skillful taxidermist being at present available. Ornamental groups are prepared to show natural attitudes and true botanical surroundings. Some part of a skeleton is cleaned, bleached and mounted and alcoholic display specimens prepared for purposes of instruction in Zoology and Physiology.

PHYSIOLOGY.

Human Physiology finds a place in the school curriculum not only as an important division of Biological Science but as a subject which has to do directly with individual well-being. As a science its disciplinary and culture value lies in its appeal to the intellectual faculties: as involving matters of personal concern, its hygienic aspects appeal to the moral sense and ally it with Ethics.

In a Normal School, the latter aspects are of first importance. The pupil in such a school is preparing to assume responsibilities which concern the child's physical no less than its intellectual welfare, and his ignorance or his neglect may mar a human life. It is necessary that he should understand sanitary conditions, the adjustment of tasks to age, temperament and physical condition, and the counteracting of those influences which tend to lessen physical vigor. He should understand the physical basis of mental activity, and the mental relations of the psychic and vital centers; he should know the conditions under which work is done with ease and profit, and the effect of worry and strain upon nutrition, nerve-repair and mental power.

Thorough training in the fundamental principles of hygiene the Normal School, therefore,

endeavors to give. The Teacher's Academic Review in Physiology is made a senior study, that the acquirements and discipline of the student may permit the presentation of physiologic truths on a comprehensive basis. The condition of admission to the class is a fair knowledge of the general subject. This allows a rapid review with special attention to important topics, such as nutrition, the nervous system, and the effect of stimulants and narcotics. Topics which may be grouped together under the head of School Hygiene are made the subject of class discussions, the library affording ample material for use in this work. The transfer of this study to the senior year has made it possible to give to this feature the prominence its importance demands.

The Catalogue shows four ten-weeks' classes in Physiology during the year. There is also each term a twenty-weeks' class for beginners. This work is the equivalent of the ordinary High-School work in Physiology. It is placed early in the course to meet the wants of those who may desire to teach before completing their studies as well as those who desire only better preparation in the common branches.

The hygienic aspects of Physiology naturally lead to the practical application of principles.

Accordingly the Physiology classes devote one recitation hour a week to physical training, the exercises being accompanied with familiar talks upon health topics. This feature of the work is extended beyond the Physiology classes, and every student who wishes may have the benefit of weekly instruction and drill in free gymnastics. For these classes, taking their drill in the recitation-room, the exercises are arranged in recognition of the principles on which the Swedish "day's order" is founded.

Classes in light gymnastics for ladies and light and heavy gymnastics for gentlemen are formed every term. A Teachers' Class is established for those who wish preparation for teaching gymnastics in the graded schools, and to this class weekly lectures are given upon the mechanism and physiology of exercise, the leading systems of gymnastics, and their adaptation to the conditions of American schools.

A vigorous Athletic Association among the gentlemen has done much to create and maintain a healthy sentiment in favor of physical development, and to promote interest in out-of-door sports, and no days of the year awaken more enthusiasm than Field Days.

FACILITIES FOR WORK IN ZOOLOGY AND BOTANY.

The department has just moved into a large, well-lighted laboratory, with accommodations for forty pupils in a section. This is equipped with compound microscopes, dissecting microscopes, microtomes, aquaria and tanks, and all the apparatus and instruments required for practical biological work.

A set of cases contains the departmental library, consisting of the important manuals, texts and reference books, along with the special periodicals. The aim is to bring together all literature of interest and value to the pupil as student and prospective teacher. Good working collections for systematic Zoology and Botany are readily accessible.

LITHOLOGICAL GEOLOGY, INCLUDING MINERALOGY.

A practical course in the study of minerals and rocks, intended as a foundation for later geological work and to enable pupils to prepare for grade work in this direction. The course consists of laboratory practice, lectures and recitations, with constant reference to the standard manuals and texts. Blowpipe methods and chemical manipulation are taught so that the pupil may use such manuals as Dana and Brush. About fifty of the

common minerals are studied and all of the important rocks. Collections of both are made in the field, identified and catalogued, and these collections are further increased by material purchased in bulk from the dealers.

DYNAMICAL GEOLOGY, INCLUDING STRUCTURAL GEOLOGY.

This course immediately follows the preceding and is designed to give a clear idea of the forces and agencies which have determined the shape and character of the earth's surface. It is thus believed to form a valuable, if not indispensable, adjunct of geography. An understanding of the forces that have operated in the past, building up the earth's crust, shaping the continents and dotting the seas with islands, can be obtained only by studying these same forces in action today, the difference being one of intensity rather than character. The work consists of recitations, supplemented with reading, lectures and excursions to the field.

The following general divisions are recognized:

1. Atmospheric Agencies.
2. Aqueous Agencies.
3. Igneous Agencies.
4. Organic Agencies.

HISTORICAL GEOLOGY, INCLUDING PALEONTOLOGY.

A study of the evolution of the earth and its inhabitants, designed to complete the work of Geology and to supplement that of Zoology and Botany. The course consists of recitations, reading and lectures, with laboratory work upon fossil forms. Beginning with a discussion of the Nebular and Meteoric Hypotheses, the "Geological column" is treated in order: the character of the rocks composing the formations, their thickness, home and foreign localities, their teachings, economic products and forms of vegetable and animal life. A geological map of the state is prepared by each pupil.

GENERAL FACILITIES FOR GEOLOGICAL WORK.

By means of purchases and donations the department has gotten together good working collections of minerals, rocks, fossils and sets of valuable casts. A collection of handsome photographs illustrates geological structure, geyser and glacial phenomena.

In the biological laboratory a hardwood table accommodates ten pupils in a section for blowpipe work. With water, gas, a case of reagents and all the instruments and apparatus necessary for practical work there is little further to be desired in this line.

The library contains all the important texts now in English and many of the desirable manuals and reference books. Many popular works upon Geology are upon the shelves and others are being added.

Department of Geography and Drawing.

GEOGRAPHY.

The course in Geography is a ten weeks' Teachers' review. It comprises:

1. General Geography, including lessons upon the earth as a planet; general laws of the contour and relief of the earth's surface: hydrography; climate and distribution of vegetable and animal life; anthropogeography (man as dependant upon the physical condition of the earth's surface; the earth's surface as modified by the action of man).

2. Special Geography, including lessons upon the physical characteristics of the oceans, and upon their relations to commerce and civilization; upon the physical characteristics of the continental masses; upon the relation of these physical characteristics to commerce, civilization, political divisions, etc.; upon the grand divisions: upon the United States, and upon Michigan, from the same point of view.

PROFESSIONAL WORK.

A special course in methods of teaching geography is given, including a detailed outline of the course of instruction and full illustrations of conducting the lessons. Members of the senior class teach Geography in the Training School, under the supervision of the head of the department.

DRAWING.

Two courses in drawing, each covering twenty weeks, are offered, as follows :

1. The Elementary Course follows in the main the course as laid down for the Training School, with such modifications as the greater maturity of the pupils may require. The topics considered are geometrical plane figures and their use in design ; free ornament of the leading styles (Greek, Italian Renaissance, Gothic, etc.); drawing from solids, including geometrical forms, common objects and casts, with light, shade and shadow ; principles of perspective and the constructions of shadows and reflections ; geometrical drawing ; working drawings, and the elements of orthographic and isometric projection ; harmony and contrast of color, with exercises in coloring ; construction in appropriate material, of all forms drawn.

The course is presented in the order or succession suitable for its use in the public schools.

2. The Advanced Course follows the same general line of work as the Elementary Course, with the addition of mathematical perspective; projection of shadows; advanced projection drawing, drawing from casts, natural flowers, leaves, etc.; composition of original ornament; theory of ornament; historical ornament; topographical drawing; construction of all forms drawn, and sketching from nature.

PROFESSIONAL WORK.

A Special Course in methods of teaching drawing is given, including a detailed statement of suitable lessons and the methods of giving them, with full examples of the work for each year. Members of the senior class teach drawing in the Training School under the supervision of the head of the department.

The Department of Modern Languages

All students of modern languages who come to the Normal School without any preparation in German enter the beginners' class in the ninth grade of the Practice School, where the study of the language is pursued for one year. For French no provision is made in the Practice School, and this language is therefore commenced in the Normal Department. A large proportion of the students in German come to the Normal School from High Schools and other institutions with credits for one, two or three years of work.

Nearly all the graduates who complete the course in German and French find easily positions as teachers of these branches. Nevertheless, the preparation for teaching is not held out as the sole object to members of the classes in foreign languages: the culture value of the study and its utility as an aid in other branches are so universally recognized at the present time that an institution for the training of teachers would be poorly equipped without ample provision for the pursuit of the principal living languages. While the

courses of study, therefore, provide for such instruction as is indispensable to teachers of German and French, the educational value of the study as well has received full consideration in the choice of the material offered and of the methods employed.

The ability to read German and French literature, including educational works in these languages, is the main object aimed at in the Normal School. The study of Grammar, and practice in speaking and writing, are considered as aids in the attainment of that end; considerable time is given to the former but in the beginning a thorough knowledge of the rudiments only is insisted upon, while a more complete knowledge of the grammar is only gradually acquired after the students are well started in reading and translating.

Oral exercises are taken up at the very outset: correct pronunciation is insisted upon, and more or less conversation in the foreign tongue is had in connection with nearly every lesson. In small advanced classes, especially in French — the German classes being usually much larger — the instruction is often given entirely in the foreign language, and students become accustomed to converse in it on the subjects of their reading lessons. In larger classes English is used more

extensively, since to make sure that every member of the class follows a discussion in German or French would involve great expenditure of time.

Written exercises are indispensable to a thorough mastery of the principles of a foreign language and receive, therefore, due attention. After completing an Elementary Course in Grammar, the students give about one-fifth of their time to longer translations from English into German and French.

Easy reading lessons are commenced almost at the outset, and at the beginning of the second semester complete works in German and French are taken up, long before even the Elementary Grammar Course is completed.

The following scheme shows the work required for graduation in the German and French Courses; not unfrequently, however, other authors are substituted for those named, in order to meet the wishes of students who may have read in other institutions some of the works included in the course:

Course in German.

FIRST TERM.

Pronunciation, reading and oral exercises.

A rudimentary knowledge of the parts of speech.

The most important rules of syntax (Otis. Elementary German, Macmillan's First German Reader).

SECOND TERM.

Oral and grammatical exercises continued.

(Brandt's German Grammar with Lodeman's Exercises.)

Schiller, Wilhelm Tell.

THIRD TERM.

Grammar, etc., continued. (Brandt, with Exercises.)

Lessing, Minna von Barnhelm. A Short Story by Paul Heyse.

FOURTH TERM.

Grammar completed. (Brandt, with Exercises.)

Goethe, Hermann und Dorothea.

Hoffmann. Historische Erzaehlungen.

FIFTH TERM.

German Composition. (Harris.)

Selections from Goethe's and Heine's Prose.

Goethe, Egmont.

SIXTH TERM.

German Composition continued. (Harris.)

German Ballads and Lyrics. (Buchheim.)

Freytag, Der Staat Friedrichs des Grossen; or Selections from German Scientific Literature. (Gore.)

SEVENTH TERM (10 WEEKS).

Literary Studies and Readings.

Discussion of Methods of Teaching.

Practice Teaching and Observation.

EIGHTH TERM.

German Composition. (Buchheim.)

Lessing, Nathan der Weise.

Goethe, Iphigenie, Tasso, or Faust.

A German Treatise on Education.

Practice Teaching and Observation.

Course in French.

FIRST TERM.

Pronunciation, reading, oral exercises.

Elementary Grammar. (Macmillan's Course, Part I.)

Mme. de Girardin, La Joie fait Peur, or Scribe & Legouvé, La Bataille de Dames.

SECOND TERM.

Grammar continued. (Macmillan's Course, Part II.)

Molé. French Life in Letters, with conversation.

Halévy, L'Abbeé Constantin, with conversation.

THIRD TERM.

Grammar continued. (Macmillan's Course, Part II.)

Sandeau, Mlle. de la Seiglière.

George Sand, La Mare au Diable, or Mérimée. Colomba.

Study of Idioms, and Conversation, in connection with reading lessons.

FOURTH TERM.

Composition and Grammar. (Macmillan's Course, Part III).

Lacombe. Petite Histoire du Peuple français (in French only, with study of Idioms and Conversation.)

Corneille. Le Cid, or Horace.

Molière, Les Femmes Savantes.

FIFTH TERM (10 WEEKS).

Literary Studies and Readings.

Discussions of Methods of Teaching.

SIXTH TERM.

Composition and Grammar. (Macmillan's Course, Part III.)

Sainte Beuve, Causeries du Lundi, or equivalent.

Crane. Le Romantisme français, or equivalent.

A French Treatise on Education. Conversation.

These courses, it will be seen, offer a fair variety of literature, both classical and modern authors being represented, and poetry, the drama, historical and narrative prose, educational and scientific treatises, receiving a share of the time. The list includes among others the works usually read in the public schools, and attention is frequently called to methods of presenting points of especial difficulty and of studying authors with a special view to the acquisition of the foreign language. It is not to be understood, however, that this more professional phase of the work is made so prominent as to lessen the culture value of the subject by constant reference to its future utility to the teacher. Experience has shown that, with judicious teaching, the pedagogical and the purely literary interests do not conflict with each other, but are rather hightened by their combination. Both are of an intellectual nature, and the case of the future teacher, who pursues a study with a view to presenting to another mind what his own mind assimilates, is essentially different from that of a student acquiring knowledge with purely practical or utilitarian aims in view.

In the higher classes the professional side of the instruction is more strongly emphasized than in the lower. This is the case, especially in the "Com-

position" classes, the translations from English into German or French offering frequent opportunities of discussing those topics which the experienced teacher knows as presenting the greatest difficulties to the learner and to the young teacher in the class room. In connection with these exercises and with the advanced reading lessons the most important topics of inflection and syntax are reviewed and rare forms and constructions, as well as idioms, studied more extensively than would be advisable with non-professional students learning foreign languages merely for practical purposes.

The teacher of living languages usually meets with the greatest difficulties not in the understanding or translating of certain given expressions and passages, but when he has to decide what forms of expression are possible and when reasons and explanations are called for. If the teacher of English, dealing with his mother tongue, often hesitates in making such decisions, the case is of course much worse when the language taught is a foreign one. To be sure, the more thoroughly the teacher has mastered the subject-matter, the better he will be prepared for his vocation, but much will always be left to his linguistic judgment and feeling, which are not always developed in proportion

to one's general practical knowledge of a language: they can and must be cultivated, and the reasoning about the facts of language should receive far more attention in a normal school than in other institutions. Even a somewhat smaller amount of linguistic material will be of greater value to the teacher if he has been taught to bring his reasoning powers to bear upon it, than would be a more extensive knowledge acquired by a more mechanical process.

Aside from the pedagogical features of the academical instruction, the following provision is made for special professional instruction for all students graduating in any of the modern language courses: Ten weeks of the senior year are devoted to literary readings, to lectures on German literature, and to discussions of methods of teaching modern languages: seniors also teach classes in German in the ninth grade of the Training School under constant supervision of the head of the German department or of the regular assistant.

The literary readings extend over the various periods of German (or French) literature, each student selecting, or being assigned, certain topics which are taken up in order and reported upon in the class. A departmental library of some two or three hundred volumes, including the best works on the History of Literature and literary criticism.

as well as many of the works of the best authors, is placed at the disposal of the students; aside from this, the general library contains many additional works which students are allowed to use at their rooms or in the reading room connected with the library. The reports of the students are supplemented by informal remarks and by occasional lectures given by the teacher to the whole class.

The principal methods of teaching modern languages, both of the past and present, are made the subject of a critical study: their merits and defects are discussed, and the opinions of eminent teachers consulted. A way out of the bewildering mass of contradictory views is found in some leading principles of modern psychology which must serve as the basis of all rational methods.

Students teaching classes in German in the Training School are assisted in their preparation of the lessons. The five formal steps of Herbart-Ziller are found to be the most natural and helpful guide. At the close of the hour, or at some other convenient time, the student-teacher and other members of the senior class assigned for observation, meet the head of the department for criticism. The following points are discussed as far as the occasion calls for them: First, the subject of the lesson: the selection, arrangement, and manner of

presentation. Second, the teacher: the personality of the teacher (general bearing and manner, eye, voice, language); the manner of conducting the recitation (the teaching proper, management of the class, proper use of time, accuracy, use of the foreign language in teaching proper emphasizing of essential points). Third, the class: conduct, degree of interest shown, progress, individual pupils.

The use made by students of the departmental and the general libraries in connection with the study of foreign languages and literatures has been referred to above.

It remains to be stated that students in the Modern Classical course have access to a number of foreign publications, including educational periodicals, and that they are encouraged in other departments of the school to read and report on valuable articles by German and French writers.

The Department of Ancient Language.

The Academic work in Latin may be pursued for six years and in Greek for four years; but undergraduate students usually pursue the former for but four years and the latter for but two years, unless they come with some previous preparation in those studies which enables them to elect some of the advanced work. In order to encourage students to begin their work in Latin before coming here, so that they may be relied upon to do higher work in language before leaving, the first year's work in Latin is regarded as preparatory to the Normal, and students coming without Latin and wishing to pursue it, are classified for a year in the so-called ninth or preparatory grade.

The courses in which the ancient languages are prominent are the following: Ancient Classical Course, Latin German Course, and English Latin Course, for those not graduates of High Schools. These are for four years. The courses bearing similar names, and lasting for two years, are

arranged for graduates of High Schools. The courses in Latin and Greek are described as follows:

Course in Latin.

FIRST YEAR.

Jones' First Lessons in Latin in connection with D'Ooge's Colloquia Latina, and Harkness's Standard Latin Grammar (or Allen and Greenough's). Translation of easy selections, with simple Latin conversation based upon the Colloquia.

SECOND YEAR.

Cæsar's Commentaries (Kelsey's or Allen and Greenough's), four books. The reading of some good biography of Cæsar is required. Latin Prose Composition (Daniell, Part I). This year is devoted to thorough grammatical drill.

THIRD YEAR.

Cicero (Allen and Greenough), six orations, or four orations and Sallust's Bellum Catilinae. The reading of some good biography of Cicero is required. Latin Prose Composition (Daniell, Part II). Daily practice in writing Latin will be given. Ovid—Selections (Kelsey) commenced, with a study of versification and scansion. This year is devoted mainly to the study of Latin synonyms, the elements of good Latin style, and the figures of rhetoric and syntax.

FOURTH YEAR.

Ovid—Selections completed. Vergil—Æneid (Frieze), six books, and the Eclogues. During this year special attention is given to Mythology and Ancient Geography.

During the third and fourth years practice is given in sight-reading from Tomlinson's "Latin for Sight Reading."

In the fourth year a five weeks' lecture course is given on Grecian and Roman Literature, and a five weeks' professional course on methods.

Ample facilities for practice teaching in Latin are offered in the ninth grade of the Training School.

Course in Greek.

FIRST YEAR.

Boise's First Lessons in Greek, in connection with Hadley and Allen's Greek Grammar. Moss's First Greek Reader. Xenophon—Anabasis (Kelsey or Boise) commenced.

SECOND YEAR.

Xenophon—Anabasis continued, three books. Greek Prose (Jones). Homer—Iliad (Keep). three books. As soon as practicable sight-reading is introduced from Moss's First Greek Reader, or from Jerram's Minora Reddenda.

The following studies are offered to students pursuing the advanced courses (six years) leading to the degree of Bachelor of Pedagogics:

Advanced Courses in Latin.

Ninth Term.—Livy—Book XXI or XXII, with Miller's Latin Composition.

Tenth Term.—Horace—Odes and Epodes, or Satires and Epistles.

Eleventh Term.—Terence or Plautus—Two Comedies, and Horace—Ars Poetica.

Twelfth Term.—Tacitus Germania and Agricola, or Cicero—De Amicitia and De Senectute.

Advanced Courses in Greek.

Fifth Term.—Homer—Odyssey.
Sixth Term.—Lysias—Four orations.
Seventh Term.—Plato—Apology.
Eighth Term.—Sophocles—Œdipus Tyrannus; Euripides—Alcestis; or Demosthenes—De Corona.

No course has been provided which demands less than four years of Latin, because the department feels that it would be unwise thus to open the door for students to drop the study at an earlier period. Four years of hard work can do but little more than ground them thoroughly in the fundamental principles of the language and introduce them to its literature. But many succeed in getting two or more years of Latin by electing it in the other courses. They must pursue it at least three semesters to receive any credit for it on the records of the school. Many come to us with credits from approved schools for the full amount of Latin or Greek which is laid down in our four years' courses, but all such are asked to take at least one additional semester in those branches, that they may establish in the department a record of a character to warrant the giving of a certificate to teach those subjects. Hence, no undergraduate student can graduate on an Ancient Language Course who has not given direct evidence to the department of proper equipment for teaching.

The presence of the study of the ancient classics in our schools is due to both the utilitarian and the ideal aim of education. We often see these aims in conflict, but not so in this case. For our students the study of the classics has a utilitarian purpose as well as an ideal and disciplinary one. They involve the culture of the useful as well as the culture of the beautiful. In a true university the usefulness of a study is not to be measured by its availability for business purposes of later life: but solely by its power to educate and develop the student's powers. In a Normal School where future teachers are to be supplied with that knowledge which is demanded of them by the schools of the State, the utilitarian aim has a proper place. Latin is taught in the public schools more than any other language. A good knowledge of it is a sure passport to a good position. The department feels, therefore, that its right to exist is abundantly proved by the large number of classical teachers who have gone from it and are now holding responsible positions in the High Schools of the State and by the constantly growing demand for them.

In addition to the utilitarian object is that of culture and discipline, which of itself would secure a place for the classics in our school.

Their disciplinary value is too well-known to need more than mere mention. Add to this that our language, our literature, our laws and our ethics rest so vitally upon foundations laid in Greece and Rome that the study of English branches alone will always lack an element essential to a liberal education.

The course of study in Latin and in Greek is arranged in that order which the experience of the best schools has shown to be most suitable. After the fourth year of Latin and the second year of Greek the course is much varied from year to year so as to give new freshness to the work of the teachers and a larger field of election for those students that are specializing in ancient languages. Especial emphasis is laid upon the work in Latin composition throughout the course, and also upon sight-reading from easy authors, in the belief that these are the best tests of the knowledge of the language.

The Academic work is everywhere presented in a way that is professional and peculiar to a Normal School. Not facts alone but the reasons for them are given. Different ways of presenting subjects are brought forward and their relative excellence made clear. The claims of different text-books

and of different authorities are fully discussed. Every recitation is made a model designed for the professional instruction of the class. The Academic instruction is constantly combined with detailed professional instruction.

In addition to the work just described ten weeks are devoted to purely professional work. This is given in the way of lectures. These embrace (a) a general survey of the field of Classical Literature, (b) the particular relations of Greek and Latin to other languages, (c) the History of the Latin Alphabet and Latin Pronunciation. (d) the Pedagogical History of Latin and Greek. (e) Practical Rules and Methods for the School-room, (f) the Bibliography for the study of Greek and Latin, (g) the Study of Ancient Authors. The students are expected to keep careful notes, and the study of authors is conducted by requiring of each student two or more theses on subjects assigned by the teacher, who at the same time furnishes as full a list of authorities as the library can afford. The best of these theses are bound and preserved as incentives to future classes.

The teaching of the preparatory year in Latin gives the required opportunity for observation and practice. This work is always done in a number

of sections and the teaching is only in part put nto the hands of the students. This is rather their opportunity for observation, and the work is therefore made as excellent as possible, often being performed by the head of the department. At a later hour the same students that have observed assemble, and one of their number teaches the lesson as he has seen it taught. Criticisms and questions are then in order from the students and from the critic teacher. Difficulties in the matter itself and its presentation are brought up and made clear. Enough work in actual teaching of the sections is given, however, to give the students ease and confidence in the management of a class.

Large demands are made upon students to do collateral reading, both with their Academic and with their professional work. The pedagogical requirements in this direction are supplied by the best books and educational publications that have to do with the interests of classical instruction. The resources of the library for general reading are good and are growing better year by year through liberal appropriations for the purchase of books. It has been the plan of the department to direct the reading of pupils into such channels as

would best fit them for the work immediately following.

In addition to the general library there is also a departmental library consisting of about two hundred and fifty volumes, which is free of access to all students of the ancient classics. This collection is made up of Greek and Latin texts, commentaries on the same and of authorities on grammar and syntax.

The Department of Music.

The students coming to the Normal School have, as a rule, had but little study in music. But few have had any training of the voice, or anything in theory beyond the rudiments. To meet this condition a beginner's class of twenty weeks duration is held twice each year. The work in this class is largely academic, and as the voices are wholly untrained, considerable attention is given to Voice Culture, Breathing Exercises and Tone Production. As the pupils are at first poor readers of music, the rudiments are taught from the very beginning. The three principal triads, tonic, dominant, sub-dominant, are taught first by pattern, and afterwards the tones are represented by figures. The time element is taught according to the Tonic Sol-fa system. This singing from figures in all keys is continued until tonality is well established in the mind of the pupil, when the same or similar work is done, using the staff-notation. Pupils are also required to transcribe from numerical notation to staff notation and vice-versa

in writing. As many of this class receive no further instruction in music, attention is also given to Methods of Teaching. This is done in the form of lectures one day each week during the first half of the term, and during the last half the pupils teach the class, when criticisms and suggestion are made. The requirements for admission to this class are a good ear for pitch, and a fair voice which indicates susceptibility to training, and a desire to do actual work in teaching, or to supervise the work of other teachers.

In the voice culture classes instruction is first given in tone production, breathing and physical development. This is considered of vital and primary importance in order that the teacher may give proper examples of pure tones for children to imitate, and accordingly individual training is given as much as possible. The practice includes exercises for the voice without notes; vocalizes and solfeggi by different authors: songs, ballads and selections from operas and oratorios.

The Teachers', or advanced class, which immediately follows the Beginner's class, is for those who wish to do special music teaching in the public schools. The work is intended to be largely professional, and in connection with methods of teaching much time is given to theory. Systems

of teaching by different authors are considered and investigated: and scales, intervals and chords must be analyzed, sung, written, and their special effects discussed: there are also exercises in simple Transitions and modulations, more practice teaching, and further study in voice training and singing.

For those who take the four years' Music Course, one year of the study of Harmony is required. The work done is made practical as well as theoretical, and the law of "things before signs" is strictly exemplified. To this end pupils are required to hear tones, chords, intervals, resolutions, preparations, concords and discords, before writing them. Some knowledge of the piano or organ is necessary. It is the aim in this study to make the student not only a better and more thorough musician, but also a better and more thorough teacher.

After completing Harmony, students are given twenty weeks daily recitation in Simple Counterpoint, all the different species being studied.

Musical Composition or Form follows Counterpoint, and consists of a review of Harmony treated subjectively and inductively, and the analysis of compositions by classical composers. In this class, special attention is also given to

correct writing of exercises and songs for singing classes, primary and adult. One-half year is devoted to History and Literature of Music. In this class the best and latest text-books are used, but pupils are also required to consult the library in order to inform themselves upon subjects of interest which are incidental to the regular work. Contemporary history is thus touched upon as closely involved in the history of music. Essays on musical topics are also written by the class, and reviews of musical magazines and other works are prepared. Attention is thus called to the literary as well as the musical thought of the times.

Since pupils may be called upon in their future work to conduct choruses and choirs, a class is formed called the Conductor's class. The instruction is given by lectures, and each member is required to practice conducting. Afterwards opportunity is given to conduct in the Normal Choir—a chorus which meets a half hour daily for the study of church music, oratorio, and secular music. The principal object of this class is that the pupil may learn to command himself, and to conduct and command others.

The Conservatory of Music connected with the Normal School is designed to carry on still further the musical instruction given in the four years'

Music Course, and also to furnish lessons in instrumental music. The Piano, Violin and Organ are the principal instruments taught. Four courses are offered as follows: The Vocal or Singing Course, the Piano Course, the Violin Course, and the Organ Course, each covering three years. All pupils in these courses are required to pursue the music studies prescribed for the regular Music Course in the Normal School, and to appear in recitals and concerts at stated times.

APPENDIX.

Courses of Study and Requirements for Degrees.

Three-Year Courses.

These are two in number; one designed especially for the preparation of Kindergartners, and the other to prepare teachers for the rural schools and for the lower High School grades.

The Kindergarten Course includes studies shown below. The number following each study in this and following courses indicates the number of recitation or lecture periods devoted to it.

FIRST YEAR.

Drawing, 100; Rhetoric, 100; Algebra, 200; Vocal Music, 100; English History, 100; Botany, 100; Teachers' Review of Physiology, 50; Reading and Orthoepy, 50.

SECOND YEAR.

English Literature, 100, Plane Geometry, 100; Zoology, 50; Teachers' Review of Science of Government, Geography, Arithmetic, and Grammar, 50 each; Physics, 100; Psychology, 100; Solid Geometry, 100; Penmanship, 50.

THIRD YEAR.

Kindergarten Instruction and Methods, 100; United States Political History, 100; Physics, 100; Special Profes-

sional Training in Reading, Grammar, Arithmetic, and Geography, 25 each; Applied Psychology, 100; History of Education, 50; Laboratory Practice, 50; Practice Teaching in Kindergarten, 200.

The other three years' course differs from the foregoing as follows: Professional Training in History or Science, 50, is added, and elective work may be taken in place of Kindergarten Instruction and Methods, Solid Geometry and Vocal Music. These studies are omitted in order to give opportunity for the study of a language other than English to a large number of students who complete this course with the design of teaching for a time under the limited (5 years) certificate to which it leads, and then returning to the school to complete a language course leading to a life certificate.

Four-Year Courses.

Of these a considerable number are offered. It is the policy of the School to meet the varying wants of the public schools by means of an adequate number of fixed and specified courses rather than by the allowance of a large amount of elective work in a few. It is believed that the latter plan leads often to ill-balanced acquirements and consequently to ineffectual training.

Below will be found a statement of the contents of five typical and leading courses of study.

Literary Course.

FIRST YEAR.

Drawing, 100; Rhetoric, 100; Algebra, 200; Teachers' Review of Arithmetic, Grammar, and Reading and Orthoepy, 50 each; English History, 100; Botany, 100; Elective, 50.

SECOND YEAR.

English Literature and Advanced English Literature, 150; General History, 100; Zoology, 50; Teachers' Review of Science of Government, 50; Political Economy, 50; Plane Geometry. 100; Penmanship, 50; Teachers' Review of Geography, 50; Elective. 200.

THIRD YEAR.

United States Political History. 100; Psychology and Applied Psychology, 200; Physics. 200; Special Professional Training in Reading, Grammar, Arithmetic, and Geography, 25 each; American Literature, 100; Elective. 100.

FOURTH YEAR.

Old and Middle English and Study of Masterpieces, 200; Institutes of History and English Constitutional History, 200; Teachers' Review of Physiology, 50; Professional Training in History, 50; History of Education, 50; Laboratory Practice, 50; Practice Teaching, 200.

Scientific Course.

FIRST YEAR.

Drawing, 100; Rhetoric, 100; Algebra, 200; Teachers' Review of Science of Government. Reading and Orthoepy, and Geography, 50 each; Advanced Drawing, 100; Botany, 100; Penmanship. 50.

SECOND YEAR.

Zoology, 100; Geometry, Plane and Solid, 200; English Literature, 100; General History. 100; Physics, 100; Psychology, 100; Teachers' Review of Arithmetic and Grammar, 50 each.

THIRD YEAR.

Physics, 100; Chemistry, 100; United States Political History, 100; Applied Psychology, 100; Trigonometry, 50; Laboratory Practice, 50; Higher Algebra or Elective, 100; Advanced Chemistry, 100; Special Professional Training in Reading, Grammar, Arithmetic, and Geography, 25 each.

FOURTH YEAR.

Geology, 100; Calculus, 100; Astronomy, 100; Advanced Physics, 100; Teachers' Review of Physiology, 50; History of Education, 50; Professional Training in Science, 50; Physical Technics, 50; Practice Teaching, 200.

Literary-Scientific Course.

Made up of work selected from the Literary and the Scientific Courses.

FIRST YEAR.

Drawing, 100; Rhetoric, 100; Algebra, 200; English History, 100; Botany, 100; Teachers' Review of Reading and Orthoepy and Science of Government, 50 each; Elective, 100.

SECOND YEAR.

English Literature and Advanced English Literature, 150; Zoology, 100; General History, 100; Teachers' Review of Arithmetic, Grammar, and Geography, 50 each; Penmanship, 50; Political Economy, 50; Plane Geometry, 100; Elective, 100.

THIRD YEAR.

United States Political History, 100; Psychology and Applied Psychology, 200; Physics, 200; Solid Geometry, 100; American Literature, 100; Special Professional Training in Reading, Grammar, Arithmetic, and Geography, 25 each.

FOURTH YEAR.

Institutes of History, 100; Chemistry and Advanced Chemistry, 200; History of Education, 50; Laboratory Practice, 50; Teachers' Review of Physiology, 50; Professional Training in History or Science, 50; Elective, 100; Practice Teaching, 200.

Ancient Classical Course.

FIRST YEAR.

Latin, 200; Drawing, 100; Algebra, 200; Teachers' Review of Reading and Orthoepy, and Science of Government, 50 each; Grecian and Roman History, 100; Botany, 100.

SECOND YEAR.

Latin, 200; Greek, 200; Rhetoric, 100; Teachers' Review of Geography, Arithmetic, and Grammar, 50 each; Penmanship, 50; Plane Geometry, 100.

THIRD YEAR.

Latin, 200; Greek, 200; Psychology and Applied Psychology, 200; Solid Geometry, 100; Physics, 100.

FOURTH YEAR.

Latin, 200; United States Political History, 100; History of Education, 50; Classical Literature and Methods, 50; Special Professional Training in Reading, Grammar, Arithmetic, and Geography, 25 each; Laboratory Practice, 50; Teachers' Review of Physiology, 50; Practice Teaching, 200.

Modern Classical Course.

FIRST YEAR.

German, 200; Algebra, 200; Drawing, 100; Teachers' Review of Reading and Orthoepy, Science of Government and Geography, 50 each; Botany, 100; Penmanship, 50.

SECOND YEAR.

German, 200; French, 200; Rhetoric, 100; Continental History, 100; Psychology, 100; Teachers' Review of Arithmetic and Grammar, 50 each.

THIRD YEAR.

German, 200; French, 200; Plane and Solid Geometry, 200; United States Political History, 100; Physics, 100.

FOURTH YEAR.

German, 100; French, 100; History of Education, 50; Laboratory Practice, 50; Teachers' Review of Physiology, 50; Applied Psychology, 100; Modern Literature and Methods, 50; Special Training in Reading, Grammar, Arithmetic, and Geography, 25 each; Practice Teaching, 200.

It will be seen that this course differs in its contents from the Ancient Classical only as follows: It omits Latin, 800; Greek, 400; Grecian and Roman History, 100, and Classical Literature and Methods, 50; and offers instead, German, 700; French, 500; Continental History, 100; Modern Literature and Methods, 50.

Two courses are modifications of the Ancient Classical Course, as follows:

(*a*) English-Latin Course. It omits Greek, 400, and replaces it with English Literature, 100; American Literature, 100; Physics II., 100, and one Elective study, 100.

(*b*) Latin-German Course. It omits Greek, 400; two semesters of beginning Latin (which are required as preparatory work), 200; Botany, 100; Physics, 100, and Laboratory Practice, 50; and puts in their place, German, 700; Continental History, 100; Modern Literature and Methods, 50.

Three courses are modifications of the Modern Classical Course, as follows:

(*a*) English-German Course. It replaces French, 500; with English Literature, 100; Physics II, 100; American Literature. 100; Chemistry or Zoology, 100, and one Elective study, 100.

(*b*) English-French Course. This course omits German, 700; and replaces it with Vocal Music, 100; English Literature, 100; American Literature, 100; Physics II, 100, and Elective studies, 300.

(*c*) Shorter German Course. In this course French, 500, and the last three semesters of German, 300, are omitted, and are replaced by Vocal Music or English History, 100; English Literature, 100; American Literature, 100; Physics II, 100; Chemistry or Zoology, 100; Advanced Chemistry, Astronomy or Study of Masterpieces, 100, and two Elective studies, 200.

Music Course.

FIRST YEAR.

Vocal Music, Advanced Vocal Music and Voice Culture, 400; Teachers' Review of Science of Government and Reading and Orthoepy, 100; Modern Language, 200; Rhetoric, 100.

SECOND YEAR.

Harmony, 200; Voice Culture or Instrumental Music, 200; Modern Language, 200; General History, 100; Psychology, 100.

THIRD YEAR.

Musical Composition, 100; Voice Culture or Instrumental Music, 100; English Literature, 100; United States Political History, 100; Teachers' Review of Arithmetic, Grammar and Geography, 50 each; Penmanship, 50; Physics, 100; Applied Psychology, 100.

FOURTH YEAR.

Counterpoint, 100; History and Literature of Music, 100; Voice Culture or Instrumental Music, 100; Physics II, 100; Special Professional Training in Reading, Grammar, Arithmetic and Geography, 25 each; Teachers' Review of Physiology, 50; Practice Teaching, 200; Elective study, 50.

In this course the cost of Instrumental Music is, if elected, paid by the student.

Short Courses for Graduates of High Schools.

Graduates of approved High Schools may be admitted to specified one-year and two-year courses corresponding to most of the foregoing. The one-year courses lead to a five-year certificate and the two-years courses to a diploma and a life certificate. In such cases the High School course already completed is taken as an equivalent of all requirements except those noted in such short courses. It will perhaps be sufficient to give one or two examples, thus, such a graduate may earn a five-year certificate upon the Kindergarten Course by satisfactorily completing studies regularly covering one year, as follows: Psychology and Applied Psychology, 200; Teachers' Review of Arithmetic and Grammar, 100; Kindergarten Instruction and Methods, 100; Drawing, 100; Special Professional Training in Reading, Grammar, Arithmetic, and Geography, 25 each; History of Education, 50; Practice Teaching, 100; Vocal Music, 100. Such a graduate may earn a life certificate and a diploma in the Literary Course by the satisfactory completion of the following studies:

FIRST YEAR.

Drawing, 100; Teachers' Review of Reading and Ortheopy, Grammar, Arithmetic, and Geography, 50 each;

United States Political History, 100; Psychology and Psychology Applied, 200; Advanced English Literature, 50; Special Professional Training in Reading, Grammar, Arithmetic, and Geography, 25 each; Science of Government, 50.

SECOND YEAR.

Old and Middle English, 100; Study of Masterpieces, 100; Institutes of History, 100; English Constitutional History, 100; History of Education, 50; Laboratory Practice, 50; Physiology, 50; Professional Training in History, 50; Practice Teaching, 200.

Courses Leading to a Life Certificate and the Degree of Bachelor of Pedagogics.

Graduates in any one of the four-year courses of study, except the Music Course, may earn the degree of Bachelor of Pedagogics by the satisfactory completion of additional studies, covering two years (1,600 hours or recitation periods) of work. These are to be elected from work prescribed for four-years courses, but not included in the course in which the candidate for the degree was graduated, and from the following list of studies offered in advance courses only:

Advanced Psychology, 50 hours.

Discussion and Comparison of Educational Systems and Theories, 50 hours.

Advanced Practice Teaching, 100 hours.

Entomology, 100 hours.

Sanitary Science, 50 hours.

Meteorology, 50 hours.

General Geometry and Calculus, 100 hours.

Advanced Rhetoric, 100 hours.

Latin, ninth, tenth, eleventh, twelfth terms, 400 hours.

Greek, fifth, sixth, seventh, eighth terms, 400 hours.

Studies in German and French Literature, 100 hours.

United States Constitutional History, 100 hours.

Instrumental Astronomy, 100 hours.

The Electives must include Advanced Psychology, 50; Discussions and Comparisons of Educational Systems and Theories, 50; Advanced Practice Teaching, 100, and Sanitary Science, 50; and all the work offered by at least two of the following departments, viz: Mental and Moral Science and Theory and Art of Teaching; History and Civics; Mathematics; French; German; Latin; Greek; Physical Sciences; Natural Sciences, and English Language and Literature.

Professional Course for Graduates of Colleges.

Persons holding an Academic degree from the University of Michigan or from an incorporated college, may receive a life license to teach and the degree of Bachelor of Pedagogics, upon completion of the following course, provided this Academic work, done in college, be equivalent to the requirements made of Normal students for the degree of B. Pd.:

1. Mental Science Applied to Teaching, 100 hours.
2. Professional Training in Common Branches, 100 hours.
3. History of Education, 50 hours.
4. Practice Teaching and Supervision, 100 hours.

The applicant must furnish satisfactory evidence by examination or by actual class work that he has a thorough knowledge of common branches as follows: Spelling and Orthoepy, Grammar, Geography, Arithmetic, History of the United States, Civil Government, and Physiology and Hygiene so far as they have reference to the effects of narcotics and stimulants upon the human system. A residence of one-half year is also required.

The Degree of Master of Pedagogics.

Any person holding the degree of Bachelor of Pedagogics of the Michigan State Normal School, may upon application, receive the degree of Master of Pedagogics upon the following conditions:

(*a*) He shall furnish evidence satisfactory to the Faculty that he has been engaged in teaching or in school supervision continuously and with pronounced success for five years since receiving the Bachelor's degree.

(*b*) He shall prepare and present a thesis acceptable to the said Faculty, upon some subject connected with the History, Science, or Art of Education, the Faculty reserving the right to assign the subject of such thesis.